DOCUMENT RESUME

ED 404 939 HE 029 954

AUTHOR Ratcliff, James L.; And Others
TITLE Realizing the Potential: Improving Postsecondary Teaching, Learning, and Assessment.
INSTITUTION National Center on Postsecondary Teaching, Learning, and Assessment, University Park, PA.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO ISBN-0-16-048964-4; PLLI-96-8040
PUB DATE Dec 96
CONTRACT R117G10037
NOTE 55p.
AVAILABLE FROM U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Access to Education; College Faculty; *College Instruction; College Role; College Students; Community Colleges; *Educational Improvement; *Educational Policy; Educational Research; Higher Education; Instructional Effectiveness; *Learning; Minority Groups; Outcomes of Education; Student Development; *Student Evaluation; Universities

ABSTRACT

This report summarizes research findings on the improvement of postsecondary teaching, learning, and assessment. It was found that 2-year and 4-year institutions provided relatively equal cognitive gains for students after the initial year, and that African American students attending historically black colleges or universities showed comparable first-year cognitive gains to their counterparts attending predominantly white institutions. It was also found that the most influential experiences in noncontent learning for students involved human interactions with other students and faculty. Active student involvement in their own learning (through collaborative learning, internships, and meaningful work-study) brought students greater learning effectiveness. Research indicated that while faculty are innovative and adjust their teaching styles to accommodate students' needs, little reward exists in the system for such investment. Faculty who spent more time on research and publishing and less time on teaching earned the highest salaries. It is concluded that faculty, administrators, and state legislators need to welcome diversity, assess student development to show pathways to improvement, and support efforts to encourage, educate, and assist new faculty to become skilled and proficient at curriculum planning, instruction, and advising. (Contains 70 references.) (MDM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 404 939

Realizing the Potential:

Improving Postsecondary Teaching, Learning, and Assessment

National Center on Postsecondary Teaching, Learning, and Assessment

HE029 432

U.S. Department of Education
Office of Educational Research and Improvement

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

Realizing the Potential:

Improving Postsecondary Teaching, Learning, and Assessment

Prepared for
U.S. Department of Education,
Office of Educational Research and Improvement,
National Institute on Postsecondary Education, Libraries, and Lifelong Learning

© 1995 The National Center on Postsecondary Teaching, Learning, and Assessment
University Park, PA

Prepared by
The National Center on Postsecondary Teaching, Learning, and Assessment

by
James L. Ratcliff and Associates
National Center on Postsecondary Teaching, Learning, and Assessment
The Pennsylvania State University
University Park, PA 16801-5252

For sale by the U.S. Government Printing Office
Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328
ISBN 0-16-048964-4

U.S. Department of Education
Richard W. Riley
Secretary

Office of Educational Research and Improvement
Sharon P. Robinson
Assistant Secretary

National Institute on Postsecondary Education, Libraries, and Lifelong Learning
Carol B. Lacampagne
Director

December 1996

The National Institute on Postsecondary Education, Libraries, and Lifelong Learning has obtained permission from the copyright holders to reproduce this report. Further reproduction of this material is prohibited without specific permission of the copyright holders.

The National Center on Postsecondary Teaching, Learning, and Assessment is funded by the U.S. Department of Education, Office of Educational Research and Improvement (OERI), Grant R117G10037. The National Center is a consortium of the Pennsylvania State University, the University of Illinois-Chicago, Syracuse University, Northwestern University, Arizona State University, and the University of Southern California. The opinions expressed in this report are derived from the research programs and projects of the National Center and do not necessarily reflect the position or policy of OERI.

The National Center seeks to improve understanding of the factors that facilitate or impede undergraduate student learning. Its four research programs and its National Study of Student Learning are driven by three questions: 1) What are the experiences and learning outcomes of underrepresented groups? 2) What are the educational impacts of different kinds of institutional environments? and 3) What are meaningful and useful forms of assessing student learning, educational progress, and institutional effectiveness? To date, most of these influences have been studied in isolation, which oversimplifies our understanding of how college affects students. The National Center research provides a richer, more comprehensive and integrated view of teaching, learning, and assessment wherein the interaction of forces and factors are examined within the context of programs, institutions, states, and the nation.

Foreword

The college years are perhaps the most important time in the lives of many young adults; a time of change when many decisions are made that can alter the course of students' lives in meaningful ways.

From this first real taste of the diversity and complexity of the world beyond their homes and families, college students develop a wide range of specialized and general skills, abilities, and values that help to determine their roles in their professions, their communities, and their personal lives.

We are proud of the current role being played by our institutions of higher education in fostering this growth. We also recognize that there is always room for improvement, if only we step back and take a comprehensive look at what we know works and what we know can be made better. By pooling our research resources, we can better understand our strengths and weaknesses in the ever-changing world in which we live.

Ten years ago, OERI produced *What Works*, a publication intended primarily for parents and teachers and containing more than three dozen research findings easily understood by a lay audience. Although not without its critics, *What Works* was enormously popular, because it stimulated further discussions and opened new avenues for learning as a continuing journey, rather than as a destination to be reached.

Realizing the Potential was developed in the tradition of *What Works* and the other innovative projects that have followed over a decade of great change and challenge for OERI. *Realizing the Potential* contains easily understood research syntheses developed by the National Center for Postsecondary Teaching, Learning, and Assessment, one of the OERI-funded national research and development centers, which completed its five-year mission in 1995.

Whereas *What Works* addressed K–12 education, *Realizing the Potential* contains findings that can make the United States system of higher education—considered the best in the world—even better. But the two publications share at least one common goal—to intensify the ongoing dialogue among those individuals in the best position to affect higher education: trustees, presidents, administrators, and faculty of the institutions of higher education, and the local, state, and federal policymakers who help to guide future developments using current knowledge and insights.

Exploration of these and other critical challenges facing a nation of lifelong learners is a research priority of the Office of Educational Research and Improvement (OERI), and is integral to the mission of the National Institute on Postsecondary Education, Libraries, and Lifelong Learning.

The subject of lifelong learning and its many related points of discussion—and sometimes disagreement—deserve a full airing in order to promote understanding and to develop a strategy for success. *Realizing the Potential* can offer a starting point for that discussion: a beginning of much-needed dialogue on the meaning of lifelong learning today and in the future.

Sharon P. Robinson
Assistant Secretary
Office of Educational Research and Improvement

About the National Institute on Postsecondary Education, Libraries, and Lifelong Learning

The National Institute on Postsecondary Education, Libraries, and Lifelong Learning (PLLI), under the leadership of its Director, Carole Lacampagne, seeks to expand knowledge about the education and training of adults in a variety of settings, including postsecondary institutions, community-based education programs, libraries, and the workplace.

The Institute supports research and development activities designed to promote quality and access in the education and training received by adults toward the accomplishment of an important National Education Goal: That every adult American will compete in a global economy and exercise the rights and responsibilities of citizenship.

In support of this mission, the Institute:

- awards grants for field initiated studies and small business innovation research;
- funds directed research activities;
- conducts in-house research;
- supports research efforts by visiting scholars and developing researchers;
- synthesizes research, produces reports and issue briefs, and provides technical assistance for researchers, practitioners, policymakers, and the public; and
- collaborates with other education researchers and funding agencies at the national and international level.

Vital to the Institute's work are two national Research and Development Centers that are funded through the year 2000.

The National Center for Postsecondary Improvement at Stanford University, in collaboration with the University of Pennsylvania and the University of Michigan, has begun work on a set of six integrated research projects: postsecondary restructuring, transitions between education and work (with emphasis on lifelong learning), patterns of participation in postsecondary education, ways to improve professional development and teaching for grades K–12, and improving student assessment.

The National Center for the Study of Adult Learning and Literacy at Harvard University, in collaboration with World Education (Boston) and the University of Tennessee, has begun work on improving the quality of practice in educational programs that serve adult learners. Researchers are examining ways to enhance and sustain adult motivation and learning, improve classroom practices, build effective staff development systems, and accurately assess the impact of adult learning and literacy programs on important life outcomes.

In addition to the two new Centers, three Centers completed their work in 1995, producing a great deal of valuable information and research reports during their five-year relationship with OERI. Among them was the National Center for Postsecondary Teaching, Learning, and Assessment (NCTLA), located at Pennsylvania State University, which conducted research on college student learning, and also produced this publication.

For more information about the National Institute on Postsecondary Education Libraries, and Lifelong Learning, visit our website at **http://www.ed.gov/PLLI** or write to us at the **U.S. Department of Education, OERI/PLLI, 555 New Jersey Avenue, NW, Washington, DC 20208-5531.**

Executive Summary: Realizing the Potential

We know that college can profoundly shape students' lives. Yet many students are uncertain as to what they will gain from the collegiate experience. Postsecondary institutions must be clearer about what students will learn, how they will learn, and what levels of learning will be achieved. Faculty, students, administrators, system heads, and policy makers can take specific action to enhance student learning. While the undergraduate experience can profoundly impact student learning and success, today its influence is often much less than it could be.

Our message is simple. While there is reason to maintain pride and confidence in the American higher education system, colleges and universities can do a great deal more to improve and enhance their impact on students. The potential to improve postsecondary teaching, learning, and assessment exists. This report illustrates some of the problems, highlights promising programs, and points to practices that can help realize our potential for a more informed, engaged, and self-reflective teaching and learning environment.

In a comprehensive review of the research literature pertaining to higher education's impact on student learning, Ernest Pascarella and Patrick Terenzini wrote that no "single experience will be an important determinant of change for all students. A majority of important changes that occur during college are probably the cumulative result of a set of interrelated experiences sustained over an extended period of time." Through the research programs of NCTLA, we are now gaining insight into what directly and clearly supports the claim that it is the interaction of factors, not single solutions and strategies, that leads to improved undergraduate teaching and learning. Among the findings from these integrated studies are these:

The institution

■ Two-year and four-year institutions provide relatively equal cognitive gains for students after the initial year; students attending two-year institutions show the same amount of gained knowledge as their four-year institution counterparts.

■ For all four-year institutions, faculty who spend more time on research and publishing and less time on teaching earn the highest salaries.

■ While many institutions provide equal access to students from underrepresented groups, institutions often fail to provide effective and concrete ways of ensuring support and success within the educational programs.

The students

■ African American students attending an historically Black college or university show comparable first-year cognitive gains to their counterparts attending predominantly white institutions.

■ The most influential experiences in noncontent learning for students involve human interactions: students, encounters with new and different ideas and people via student-faculty and student-student contacts.

■ Active student involvement in their own learning—collaborative learning, internships, meaningful work-study—brings students greater learning effectiveness.

■ A positive association exists between high student ratings of teacher organization and preparation and students, reading comprehension, mathematics, and critical thinking achievements.

■ Cognitive impediments associated with women's participation in intercollegiate athletics were most pronounced for women athletes who entered college with the lowest levels of prior academic achievement.

■ Students learn more from a coherent and developmental sequence of courses.

■ Faculty, employers, and policy makers agree about the importance of many skills for college graduates. College graduates need critical thinking skills in order to become more effective communicators.

The faculty

■ While faculty are innovative and adjust their teaching styles to accommodate students' needs, little reward exists in the system for such investment.

■ The average faculty salary ranged from a low of $34,307 for those who spent more than 79 percent of their time on teaching to a high of $56,181 for faculty who spend less than 35 percent of their time on teaching.

■ Faculty with the lowest salary have between 6 and 11 classroom hours a week and are the ones who typically teach the bulk of a department's classes.

■ Faculty with the least amount of student contact hours earned the highest salaries.

■ The more refereed publications a faculty member publishes, the higher the salary. Faculty with more than 30 career publications earned an average of $56,183 while those with 2 or less earned $33,198.

■ New faculty, particularly women and faculty from ethnic minority groups, do not respond to the traditional faculty socialization process and are often cooled out of the tenure and promotion process.

These lists provide a preview of the findings reported after five years of research from the National Center on Postsecondary Teaching, Learning, and Assessment. This research center conducted a National Study of Student Learning (NSSL) and eighteen focused studies on the effects of curriculum and coursework patterns; faculty roles, preparation, development, and instructional strategies; out-of-class learning environments; organizational policies and structures. The following pages provide greater detail on these findings and NCTLA's recommendations for practitioners.

TABLE OF CONTENTS

I. What We Know About Teaching, Learning, and Assessment 1

NCTLA and its Research 2

Teaching and learning under the microscope 2

What do we mean by "student learning"? 4

Today's College Environment 5

The system works! 5

Providing a positive learning environment 6

II. Improving Student Learning: Research You Can Use 7

Critical Thinking 7

Improving cognitive abilities 8

Intercollegiate athletics 9

Factors Affecting Student Persistence 9

Collaborative learning and learning communities 10

We're in this thing together 11

Making a Smooth Transition to College 13

Ways to make the transition to college easier for all students 13

First-generation students have special needs 13

"Validate" students early and often 14

III. Faculty and Teaching: Research You Can Use 18

Clear, Well-organized Teaching Does Lead to Greater Learning 18

Faculty already know the issues 19

Faculty development needs assessment data 19

Instructional development provides feedback 20

Factors Affecting Faculty Satisfaction 21

Reward structure 21

Rewards favor research 21

Teaching awards 22

Faculty stress 22

New faculty concerns 23

New faculty and gender 23

Newly hired faculty of color 24

Feeling 'in control' 25

IV. Institutions: Research You Can Use 26

Students Learn in *All* of our Institutions 26

Two-year vs. four-year colleges 26

Match Program and Service Goals with the Institution's Mission 26
Advancing Diversity: Issues of Ethnicity and Multiculturalism 27
Perceptions of prejudice are race-bound 28
How to foster openness to diversity 28
All students are not created equal 29
Institutional access 30
Remedial work necessary 31
Building an Effective Curriculum 31
Make cognitive skills part of the curriculum 33
Match student abilities with curriculum 33
The Disciplines are not the villains 33
Student Affairs: Theory into Practice 33

V. **What can you do to improve postsecondary teaching, learning, and assessment?** 35
Welcome Diversity 35
Assess development to show pathways to improvement 36
What do These Findings Mean for Faculty? 36
Faculty are the key 36
One size doesn't fit all 37
Improved teaching requires more than imagination, trial, and error 37
What do These Findings Mean for Administrators and Legislators? 38
Level playing field is not enough 38
Realizing the Potential 39
Selected Bibliography 40
NCTLA Personnel 44

I. What We Know About Teaching, Learning, and Assessment

Everything about a person is tested, challenged, and changed under the influence of those all-important postsecondary years. We know that the college years can profoundly shape students' lives. What they learn, and how they learn, orders their cognitive, psychological, and social development. Today's students may enter college from high school, from the workplace, or from the family home. As they enter college they are faced with making new friends, finding a welcoming community, and adjusting to new learning environments. Many students possess little sense of whether they can succeed and are uncertain as to what they will gain from the collegiate experience.

After the college experience, **successful** college graduates emerge with a wide range of specialized and general knowledge, skills, abilities, and values. They have established new and wide-ranging networks of friends, mentors, and contacts. They may even have selected a career, a spouse or life partner, and a clearer vision of how they can contribute to society. These proud graduates affirm faculty in their teaching roles. For them, the successful graduates of associate and bachelor degree programs represent the accomplishment that motivates committed faculty to continue seeking ways to engage, enliven, and empower their students. These high achieving students become the alumni whom provosts, deans, department chairs, and alumni organizations point to as the main accomplishments of their college or university. While the undergraduate experience can profoundly impact student learning and success, often the influence is much less than it could be.

Every institution also enrolls students who do not benefit from the experience. These are the students who often complain of the curriculum or the faculty, who drop out, or who show few learning gains from the collegiate experience. In the past decade, colleges and universities have increased their efforts to revise curricula, to contain costs, and to implement assessment, evaluation, and quality assurance mechanisms to improve the teaching and learning process. Assessment is seen as the dualistic tool to improve learning and accountability. Emphasis given to assessment by states, institutions, programmatic and regional accrediting bodies, and faculty themselves has lead to an expansion of **activity**. However, the substantial investment in assessment and in curricular reform has yet to pay large scale benefits in improved teaching and learning.[1]

> *"Everything about a person is tested, challenged, and changed under the influence of those all-important postsecondary years."*

[1] Eaton, J. S. (1992). The unfinished agenda. Higher education and the 1990's. New York: Macmillan. Ratcliff, J. L. (1992). Reconceptualizing the college curriculum. The Journal of the Association for General and Liberal Studies, 22(1), 122-37.

Colleges and universities can do a great deal more to improve and enhance their impact on students. This report seeks to help you improve that impact. The organization follows the three major components of higher education: the students, the faculty, and the institutions. Each large section includes subsections devoted to those issues and concerns, and in turn, these subsections offer research findings and recommendations for continual improvement.

This report summarizes what we can say, and what you can do, about improving postsecondary teaching, learning, and assessment. The research indicates that effective teaching, learning, and assessment occur when all concerned parties are involved in the learning process—students, faculty, professional staff, academic administrators, state higher education officials, and policymakers. We begin this report by identifying needs, roles, and expectations for students, faculty, and administrators of postsecondary education in order to improve teaching, learning, and assessment.

"Colleges and universities can do a great deal more to improve and enhance their impact on students."

NCTLA and its Research

This report grew out of five years of research conducted by the National Center on Postsecondary Teaching, Learning, and Assessment (NCTLA), a federally-sponsored research and development center. NCTLA is a consortium of The Pennsylvania State University, the University of Illinois-Chicago, Northwestern University, Syracuse University, University of Southern California, and Arizona State University.

The Center's research involved a centerpiece National Study of Student Learning (NSSL). This study was a longitudinal research project intended to expand knowledge about college impact on students by examining the simultaneous influences of academic and nonacademic experiences on students' learning, attitudes toward learning, cognitive development, and persistence. NSSL followed a diverse, multi-ethnic, nationally representative sample of nearly 4,000 students at 26 widely varying institutions through their first three years of college. The study sought to identify the extent to which academic and non-academic experiences differ by student and institutional characteristics.

While there are several large-scale surveys of American college students, NSSL is unique in that it looks not only at attitudes and values (as reported on questionnaires), but also student ability and achievement (as measured by assessments when they entered college and each successive year), and what they took during their college experience (as shown on their transcripts). Thus, NSSL gives us the ability to look holistically at the student learning experience across the country, in a wide variety of educational settings and with a nationally representative sample of college students. While surveys such as the CIRP (Cooperative Institutional Research Project) Freshman Survey and the National Education Longitudinal Study of the Class of 1988 (NELS-88) provide the binoculars to look across the postsecondary experiences of students, NSSL allows the microscope to examine the interaction of factors that influence student learning.

Teaching and learning under the microscope

In a comprehensive review of the research literature pertaining to higher education's impact on student learning, Ernest Pascarella and Patrick Terenzini wrote that "no single experience will be an important determinant of change for all students. A majority of important changes that occur during college are probably the cumulative result of a set of interrelated experiences sustained over an extended period of time."[1] Thanks to the NSSL data, we are now gaining research that *directly* and *clearly* supports the claim that

[1] Pascarella, E. T. & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research.* San Francisco: Jossey-Bass, p. 610.

it is the interaction of factors, not single solutions and strategies, *that leads to improved undergraduate teaching and learning.*

In budget hearings of a president's administrative council on campuses across the country we often hear both the vice president for student affairs and the vice president for academic affairs argue for greater financial resources. The vice president for student affairs may request funds for dormitories, for campus-based work-study programs, or for freshman orientation, while the vice president for academic affairs may request funds to institute active learning and collaborative learning in undergraduate studies or to increase opportunities for student interaction with faculty outside the classroom setting. Both vice presidents may base their requests on studies showing that these programs contribute to improved progress, persistence, performance, and degree attainment. We know, however, that students may participate in the programs of one or often of both vice presidents.

Until now research has not indicated clearly how best to balance these competing strategies for improved learning in campus environments, where resources are increasingly scarce. NSSL provides a more holistic look at the improvement of teaching and learning, examining knowledge acquisition in key subjects, development of cognitive skills and abilities (such as problem solving and critical thinking), values and attitudes students have toward learning, as well as their progress, performance, persistence, and success in degree attainment. While we have only begun to realize the wealth of findings of this database, we already have important findings to share.

Besides this longitudinal study, the Center's research agenda also involved eighteen focused investigations of the effects of curriculum and coursework patterns; of faculty roles, preparation, development, and instructional strategies; of out-of-class learning environments; and of organizational structures and policies that either impeded or facilitated student learning. For example, when we began the Center's research over four years ago, little substantive research was available to show when and how collaborative learning improved student learning, despite the interest and enthusiasm for collaborative learning strategies. One of the eighteen focused investigations, The Collaborative Learning Project, conducted a longitudinal study of students in community colleges and a research university to determine how best to use collaborative learning.

Another NCTLA investigation, The Transitions to College Project, examined the influence of in-class and out-of-class experiences on first-generation Hispanic and African American students. The findings of this study go beyond traditional involvement theory. While we knew that students who become socialized and involved in their education are more likely to succeed, results from The Transitions Project identify specific actions institutions can take to affirm, encourage, and empower students. We call this process "validation" and suggest how to use it to improve the educational experiences of first-generation students.

Employers and policy makers have expressed their concerns that colleges and universities fail to prepare students in key skills needed for global competitiveness, for the workforce of the future, or for citizenship in a complex, technologically demanding democracy. In order to address these concerns, we examined just how much agreement or disagreement there was among 600 employers, policy makers, and faculty in a nationally representative sample of higher education institutions. Surprisingly, we did not find high levels of disagreement among the three groups concerning what type of oral and written communication and critical thinking skills college graduates should

> ***"No single experience will be an important determinant of change for all students."***

National Institute of Education. (1984). Study groups on the conditions of excellence in American higher education. Involvement in learning: Realizing the potential of American higher education. Washington, DC: U.S. Department of Education.

BEST COPY AVAILABLE

possess. The *National Education Goals 5.5 Project* illustrated that a dialogue concerning common educational criteria can be held at the postsecondary level.[4] However, we still need to establish clear standards for performance in essential skills and knowledge arenas included in the curriculum of the associate and bachelor degrees.

The Collaborative Learning Project, The Transition to College Project, and *The National Education Goal 5.5 Project* are three among the 18 that are reported and described here. Each suggests pathways to improvement of postsecondary education. Each of these investigations has been documented in detail in technical reports listed in the bibliography.

"Universities and colleges are complex places."

What do we mean by "student learning"?

In keeping with the holistic view of the undergraduate environment, we used a broad definition of what constitutes student learning. Too often, student learning is viewed narrowly, omitting key elements in the undergraduate experiences. Based on Patrick Terenzini's prior work, we examined four broad classes: a) content knowledge; b) cognitive abilities; c) values and attitudes; and d) progress, persistence, performance, and degree attainment. Thus, when we refer to "student learning," we mean the learning of basic knowledge in science, mathematics, and the social sciences; cognitive abilities, such as oral and written communication skills, critical thinking, and problem solving; as well as the development of students' values and attitudes toward learning. Finally, overall measures of student success also include progress, persistence, performance, and degree attainment.

Universities and colleges are complex places. While it is relatively easy to identify one, two, or a handful of ways that students are affected by the college or university environment (and to treat them as the sole or primary influences), we need a broad, inclusive framework to capture the major elements and factors influencing student learning. Along with institutional factors, outside elements also affect students' learning-particularly part-time, working, and adult students. We sought to examine four broad areas influencing student learning: a) the curriculum and instructional strategies, b) the faculty roles and preparation, c) the out-of-class experiences, d) the organizational structures and policies that either facilitate or impede student learning. What resulted was a four-by-four matrix that served as the framework for our investigation and that has subsequently been adopted by a number of institutions. (See Chart 1.)

[4] Jones, E.A., Hoffman, S., Moore, L.M., Ratcliff, G., Tibbetts, S., & Click, B.A. (1994). *A plan for validating criteria and measures to monitor progress toward national educational goal 5.5: Identifying college graduates' essential skills in writing, speech and listening, and critical thinking. Final Report.* University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment.

Chart 1

Framework for NCTLA Research

	Curriculum & Instruction	Faculty Roles & Preparation	Out-of-Class Experiences	Organizational Structures
Content Knowledge				
Cognitive Abilities				
Values & Attitudes				
Progress, Performance, Persistence & Degree Attainment				

Today's College Environment

We should expect students to be open to instructional innovation and change. Different courses will require different things; instructor expectations will vary and different mechanisms will offer feedback and evaluation of student efforts. To succeed, students must learn to navigate these new and challenging experiences. We can also expect students to be active participants in their own learning process by absorbing new skills and abilities and testing their beliefs and attitudes. "I see college now—the first semester—that it's really up to the student to make the difference. College gives you the opportunity. It's you who takes care of that opportunity" (male university student).

At the same time, each student expects accurate and relevant advice about beneficial curricular and extracurricular experiences that match their abilities, interests, and backgrounds. The student also should expect to be given individual help with academic work as necessary and to have the opportunity for meaningful input into the improvement of the learning environment through regular formal assessments. Colleges and universities draw a variety of students who possess differing abilities and interests; they offer a variety of programs, creating diverse, complex environments. Improving teaching and learning requires a recognition of and a willingness to manage, lead, and capitalize on this complexity.

The system works!

The good news is that our current system is working. Different institutions serve students with different backgrounds, abilities, and interests. Students in every institution examined in our National Study of Student Learning showed comparable improvement in key cognitive abilities and selected content areas of undergraduate education.

While the achievement was comparable across institutions, students within a single institution started with very different levels of learning and exited with different levels of

> *"College gives you the opportunity. It's you who takes care of that opportunity."*

learning. While the curricula of our institutions reflected the complexity and diversity of our peoples, technology, economy, and geography, clear standards for the bachelors degree are still lacking. Institutions have relied on accumulated credits and grades as proxies for accomplishment. Across institutions, there are few coherent or clear levels of attainment associated with the American bachelor's degree. In order to improve teaching and student learning, we need a system that has clear learning standards rather than one that focuses on credits earned and grades received.[5]

Providing a positive learning environment

"Different environments provide positive learning experiences for different students."

Because all individuals learn differently, different environments provide positive learning experiences for different students. Institutions can provide positive learning environments by first recognizing that, with the exception of the smallest of colleges, they already provide multiple environments and experiences for different groups. Seeking a simple, single solution can be tempting, but no one •factor or force can have an equally positive impact on all students. We must not assume that the students should adapt to the institution. Rather, the transition to college should be a reciprocal process, where the institution adapts to students' needs, abilities, and interests, and the students change as a result of the choices they make in navigating environments fostered and supported by the institution.[6]

One of NCTLA's goals was to identify factors that lead to persistence, learning, and degree attainment among historically underrepresented groups. Our research shows that the college experience has broad positive effects for all kinds of students, effects that include what they learn, how they learn it, and their personal development. Such achievement can be seen among all student groups, including traditional-aged students, older students, African American and Hispanic students, women, commuter, and part-time students.

First-generation students' gains in broad cognitive abilities, such as critical thinking, are comparable to those of "traditional" students. However, the first-generation students reach such achievement through very different routes. College orientation seminars and workshops, knowing how to use the library, and an encouraging campus environment were far more important for these students than they were for their more traditional peers. These differences in institutional influence on first generation students held true even after taking their precollege critical thinking abilities into account.[7] Despite these positive findings, we also emphasize issues that require continuing efforts to make undergraduate education welcoming, engaging, and rewarding for all students, including those from historically underrepresented groups.

[5] *Ratcliff, J.L. (1995, February). The role of a differentiated system of higher education in a post-modern society. A teaching/learning perspective. Invited address, Department of Education, University of Tampere, Finland.*

[6] *Tierney, W.G., & Rhoads, R.A. (1992). Cultural leadership. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.*

[7] *Pascarella, E.T., Whitt, E.J., Nora, A., Edison, M., Hagedorn, L.S., & Terenzini, P.T. (1994). What have we learned from the first year of the National Study of Student Learning? Chicago, IL: University of Illinois at Chicago, The National Center on Postsecondary Teaching, Learning, and Assessment.*

II. Improving Student Learning: Research You Can Use

Although students do not always show strong dispositions toward intellectual inquisitiveness and critical thinking as they enter college, institutions and faculty can improve students' dispositions toward analysis and inquiry. NCTLA's research shows that students generally show strong growth in content learning, cognitive abilities, and values and attitudes toward learning as a result of their undergraduate experience. In the NSSL research, we have documented significant student achievement in the first year of college in mathematics and reading comprehension as well as critical thinking.[1]

However, that achievement is heavily influenced by the extent to which individual students encounter a challenging, engaging, and empowering learning environment that builds upon their interests, abilities, and prior learning. In the *Coursework Patterns Project*, we have shown that while the majority of graduating seniors at the 5 institutions examined showed significant improvement in quantitative reasoning, data interpretation, reading comprehension, and analytic reasoning, the students in the bottom quarter at each institution showed little or no achievement in these areas.

This difference in progress and performance among the bottom quarter at each institution was in spite of the fact that the bottom quarter at the institution with the most selective admissions had entering characteristics and abilities comparable to the top quarter at a far less selective college. Students in the bottom quarter of the highly selective institution might well have benefitted more profoundly from their undergraduate experience had they attended the less selective college where there was a better match between their abilities and interests and the curriculum and extra-curriculum.[2] These findings show that reputation can work against students who are admitted to an institution that has limited curriculum to meet their abilities and achievement.

Critical Thinking

Students' critical thinking skills and abilities may be among the most important areas of learning to be developed during the undergraduate experience.[3] Critical thinking can be

> *Too often, student learning is viewed narrowly, omitting key elements in the undergraduate experience.*

[1] Pascarella, E. T., et al. (1994). What have we learned from the first year of the National Study of Student Learning? Chicago, IL: University of Illinois at Chicago, The National Center on Postsecondary Teaching, Learning, and Assessment.

[2] Ratcliff, J. L. (1990). Development and testing of a cluster-analytic model for identifying curric work patterns associated with general learned abilities of college students. Final Report. U. S. Department of Education, Office of Educational Research and Improvement, Research Division. Contract No. OERI-R-86-0016. University Park, PA: Center for the Study of Higher Education.

[3] Ratcliff, J. L. (1991). What we can learn from coursework patterns about improving the undergraduate curriculum. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

BEST COPY AVAILABLE

defined as a student's ability to identify an argument's central issues and assumptions, draw inferences, make deductive conclusions, interpret data or information, and evaluate an argument's validity. While several conceptions of critical thinking exist, faculty, employers, and policy makers have broad areas of agreement on what it constitutes. These groups agree that college graduates should be able to analyze and evaluate, make judgments, and draw conclusions. Our research has shown that the following factors contribute to student gains in critical thinking:

- The number of hours students spend studying and the number of non-assigned books they read are positively related to gains in critical thinking.
- The more time students spend socializing, the lower their interests in academic learning.
- Students' classroom experiences have the most impact on creating intellectual curiosity.
- Students involved in artistic endeavors, theater, or music show a stronger involvement and interest in learning than less creatively involved peers. This involvement is the strongest of the out-of-classroom experiences that positively affect cognitive skills.

> "*All is not well in American higher education.*"

Improving cognitive abilities

General education goals usually combine content knowledge, cognitive abilities, and values and attitudes toward learning. For example, goals may pertain to mastering scientific terms, concepts, and theories (content knowledge). Or they may pertain to the development of critical, creative, or analytic abilities (cognitive abilities). Many colleges aspire to contribute to the individual's commitment to lifelong learning, to ethical decision-making, or to self-reflection and good judgment (values and attitudes). Students demonstrate achievement toward these goals through some form of assessment.

We find that content knowledge, cognitive abilities, and values and attitudes are often confused or conflated in the assessment of student learning.[1] In the NCTLA *Coursework Patterns Project* research, we found that *student learning in broad cognitive abilities*, such as analytic reasoning, making quantitative comparisons, or reading comprehension, *did not relate to specific content knowledge.* Students showing large gains in analytic abilities, for example, enrolled in a variety of social science and applied science coursework.[2] *If the assessment measures content knowledge, on the other hand, then disciplinary learning and learning within the specific major or field of specialization was more closely associated with student gains.*

Given the complex nature of general education aims, colleges and universities must have clear aims for specific coursework sequences. These aims need to be assessed broadly and over the duration of the degree program with assessment measures appropriate to the types of learning embodied in the curricular aims. The assessments need to operate on clear standards for attainment of each aim.

From the NSSL research, we found that the instructional variables that had a significant impact on critical thinking included the number of courses taken in the humanities, fine arts, natural sciences, and engineering as well as the total number of credit hours completed in that first year. From *The Coursework Patterns Project*, we discovered that

[1] Springer, L., Terenzini, P. T., Pascarella, E. T., & Nora, A. (1994). Influences on college students' orientations toward learning for self-understanding. Journal of College Student Development, 36, 422-427.

[2] Ratcliff, J. L. (1992). Reconceptualizing the college curriculum. Perspectives, The Journal of the Association for General and Liberal Studies, 22(1), 122-137.

general education goals are accomplished through specific, targeted sequences of courses and that there is no clear line between general education and learning in the major when it comes to the development of broad cognitive abilities, such as critical analysis, quantitative comparisons, data interpretation, or reading comprehension skills. These findings suggest the need to revise current assumptions about where cognitive gains are made, as well as the possible need to reexamine organizational and functional structures that separate academic and student affairs divisions of colleges and universities.

Intercollegiate athletics

Participation in intercollegiate athletics clearly and consistently impeded student learning, but early intervention can help athletes to succeed academically. Males' participation in intercollegiate football and basketball had a negative influence on their first-year reading comprehension and mathematics scores. However, no differences were found between male nonathletes and male athletes in intercollegiate sports other than football and basketball. Female intercollegiate athletes showed significantly lower first-year development in reading comprehension than their nonathlete counterparts; however, both groups were essentially the same in measured gains in mathematics and critical thinking. The largest reading comprehension disadvantages accrued to those female athletes who began college with the lowest levels of reading comprehension. Early intervention and support can alleviate potential negative consequences of athletic participation.

Factors Affecting Student Persistence

All is not well in American higher education. Over half of all students drop out during the critical first year of college. Roughly 68 percent of all two-year college students drop out during their first year, compared to 53 percent of students at four-year institutions.[1] These figures should not be taken for granted, and we should not give up on such a high proportion of students. We need to rethink and redesign higher education so that colleges and universities perceive their main educational function to be cultivating, as opposed to weeding out. By admitting these students we have accepted responsibility for their learning.

Education's dual role in a democracy is to provide opportunities for personal and social advancement for all who seek it, and to set realistic, clear standards for educational achievement. Our society needs competent chemists, teachers, accountants, engineers, and doctors. If we do not encourage more women and minority students to pursue degrees in engineering, for example, we run the risk of having too few engineers in the coming decades. If we do not set realistic and meaningful curricular goals, design challenging and engaging educational programs, and assess student learning to determine the extent to which students have attained the standards in engineering, we may suffer from shoddy design and construction of airplanes, bridges, and electronics.

From prior research we know that student involvement in the learning process is important. But how do you get students involved—particularly first-generation college students? In the NCTLA *Out-of-Class Experiences Project*, we found that **validation** is the distinguishing element that marks an effective in- and out-of-class college climate.

Faculty and professional staff validate a student when they tell the student that college is the right place for him or her, that others with similar backgrounds and abilities have attended college, and that this student, too, can succeed at the institution.

[1] Tinto, V. Russo, P. & Kadel, S. (1994). Constructing educational communities: Increasing retention in challenging circumstances. *Community College Journal*, 64(4), 26-30.

"Education's dual role in a democracy is to provide opportunities for personal and social advancement for all who seek it, and to set realistic, clear standards for educational achievement."

BEST COPY AVAILABLE

Students regularly receive feedback that tells them of their deficits, inadequacies, and areas where they need further education. For the working adult, the returning female student, the Hispanic or African American student whose parents did not attend college, validation sends an important message that propels their involvement and engagement in the learning process.[14] Validation is particularly important for minority students since historically they have significantly less chance of persisting and gaining their degree objectives than nonminorities.

Students should choose institutions where welcoming, involving, active learning environments resonate with their own goals, interests, backgrounds, and abilities. This presumes that the students have detailed information on how others like themselves succeed at various colleges and universities. Students cannot easily make the match, and high school and college counselors cannot provide them with good advice on which colleges are best without detailed information about who succeeds in which college and in which programs. Such college choices cannot be made without open and honest sharing of assessment information.

"We were all learning together, but each person learns differently."

Students are most likely to succeed in institutions where their role as learner is recognized, reconfirmed, and rewarded early. Institutional experiences, academic achievement, and cultural, social, or personal environments and experiences contribute the most to persistence decisions.

Interaction with peers and the ability to form close personal relationships were related to persistence for minority men and women; however, informal interactions (a form of mentoring) between faculty and students early in that student's academic career was found to be more important for women than men.

- Males who were part of an ethnic minority showed greater persistence than white males.
- For ethnic minority students of both genders, having children reduced the likelihood of their persistence in college by 87 percent.
- Working off-campus also reduced persistence for ethnic minorities by 36 percent.

Colleges and universities can do much more to help first-generation students—particularly women and minority students—to persist, progress, and perform well in college.

Collaborative learning and learning communities

Findings from the NCTLA *Collaborative Learning Project*[15] show that students who are more involved persist in school longer and learn more if they are in programs that employ "learning communities." In learning communities students are gathered into clusters—a group of peers—and move through sequences of courses together. Learning and persistence are further enhanced when students in learning communities learn in collaborative groups, and there is often collaborative teaching in these institutions. Students learn from each other and develop a sense of responsibility for the learning of others. Students themselves have recognized the benefits of learning communities and collaboration, "We were all learning together, but each person learns differently… I

[14] *Rendon, L. I., Jalomo, R. E. (1995). Validating student experience and promoting progress, performance, and persistence through assessment. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.*

[15] *Tinto, V. (1994). Building learning communities. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.*

mean studying for tests and stuff. We helped each other . . . copying notes for days we missed, dividing things up. . . . Just studying for things and talking to each other about our projects" (learning community student). Learning and persistence are enhanced when students take courses together. In addition, the following are true of learning communities:

- Participation in a first year learning community enables students to develop a network of supportive peers that aids students in their transition to college.
- These peer groups also help students meet and learn from others from a greater diversity of backgrounds and traditions.
- Learning communities bridge the gap between the social and academic lives of students.
- Because of a feeling of obligation to peers, members of learning communities were more likely to attend classes regularly than students not in these communities.
- Collaborative classroom teams offer students ownership of their learning as they become active participants in their education.
- Collaborative learning encourages an appreciation for diversity as students are encouraged to express their views and life experiences.
- Collaborative learning and learning communities foster students' involvement in academic and social activities, provide a welcoming and supportive campus climate, and promote classroom involvement.
- Students in learning communities showed approximately 4 percent higher persistence rates than students in regular classes.
- Learning communities are effective for students who need remedial level skills.[1]

Institutions can increase retention and remedial education as well as promote learning, educational engagement, and openness to diversity by creating learning communities and by supporting faculty experimentation with collaborative learning strategies. Such support may take the form of focused professional development workshops.

> *"Learning communities bridge the gap between the social and academic lives of students."*

We're in this thing together

Learning and persistence also are enhanced when students move through academic experiences as part of intact groups. In contrast, we know that students in most colleges and universities do not have a common intellectual experience. In fact, most colleges and universities do not help undergraduate students reap the benefits of the common experience of their peers. By the time they are seniors most students have only spent 15 percent of their time with the same people. Much of this limited common experience is solely within the major or area of specialization.[2] Putting students first means that curriculum, instruction, and extracurricular experiences should be orchestrated into meaningful educational plans that are relevant and responsive to student interests and the citizenship needs of society.

---

[1] Tinto, V. (1993). Building learning communities for new college students. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

[2] Ratcliff, J. L. (1993). What we can learn from coursework patterns about improving the undergraduate curriculum. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

BEST COPY AVAILABLE

"We cannot and should not turn our backs on the part-time and commuting student..."

Persistence rates vary from institution to institution according to the types of students served. Consider two institutions within a single state. Urban University shows a 17 percent first-year-to-baccalaureate retention rate and low student achievement in writing, mathematics, and critical thinking. Rural State College shows a 40 percent retention rate and significantly greater student performance in the aforementioned areas of student learning. Yet, when the differences in student background and entering abilities are controlled, the results in learning and retention are roughly equal between the two institutions. Without that last piece of data, it would be easy (and wrong) to conclude that Rural provides a better education and does more to retain its students that does Urban U. These institutional differences in persistence were largely due to student differences. Urban had more part-time and commuter students who tended to have higher drop-out rates and lower levels of achievement.

A similar problem arises relative to degree completion rates. Part-time, adult, and commuting students frequently take longer to complete their degrees. They must balance time for work and time for family with time for being a student. Such balancing acts are not a science, and commuting students find that they must drop-out, stop-out, or otherwise take longer to attain their degree.

As the proportion of part-time and commuter students has risen in institutions of higher education, the overall time to degree attainment has risen as well. Some public officials have erroneously concluded that students are "lazy" and are not working diligently toward degree completion, or that the colleges serving them are not providing an efficient and expeditious curriculum. Yet, the mere increase in the proportion of part-time and commuter students may account for a large amount of the ever-increasing time required to attain a degree.

Transferring from one college to another also affects persistence. Students transferring from one college to another may take longer to complete their degree and may be less likely to persist to degree completion. When we examined the transcripts of 100 Georgia State University students who were identified as transfer students from Clayton State College (in suburban Atlanta), we found that 20 had never completed a course at Clayton State.

Clayton was the last institution of record for these students; they had enrolled in courses at Kennesaw College, Atlanta Junior College, DeKalb Community College, and a host of other institutions in the vicinity.[18] These students enrolled in the college that had the course they needed on the night that they had free to be a student, or selected a course based on the lowest tuition cost, or chose the course based on available transportation, time of day, or a host of other reasons. These students appear on the records of 2 to 6 institutions as enrollment stop-outs or drop-outs, but only one institution lists them as graduates. Institution-based persistence studies and assessments fail to capture or to understand fully the lives of these students.

The problems of persistence, progress, transfer, and degree attainment were created in the 1950s and 1960s when legislators created institutions and policies that fostered student mobility and open access to higher education. Neither student mobility nor access are problems, per se. Rather, they are factors contributing to attenuated time to degree and accelerated attrition.

We cannot and should not turn our backs on the part-time and commuting student, but we need to understand the nature of their mobility between institutions, their interests

[18] *Ratcliff, J. L., Hoffman, S., & Jones, E. A. (1991). Development and testing of a cluster-analytic model for identifying coursework associated with general learned abilities of college students: Report on Clayton State College Transfer Students combined samples. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.*

and motivations in attending college, and the factors that contribute to their success. Such understanding can be achieved where states, regions, and metropolitan areas share common assessment and transcript data, giving each institution a clearer picture of who took what and how much they learned.

NCTLA has developed a workbook of materials for implementing a comprehensive assessment plan at the institutional and statewide levels. The focus of this plan is students, not institutions. The materials provide a framework for collecting, analyzing, and sharing information about students to better differentiate those who are succeeding and learning from those who are not. Also, NCTLA has developed an inventory of key skills in writing and speech, critical-thinking, and problem-solving, which institutions and inter-institutional groups of faculty can use to conduct a gap analysis—an analysis of the gap between what students currently know and what they should know and be able to do in these key cognitive skill areas.

Making a Smooth Transition to College

Ways to make the transition to college easier for all students:

- Orientation programs need to be aware of and responsive to the different student backgrounds represented on campus.
- Faculty members need information about the institution's student make-up in order to prepare courses to better meet student needs and abilities.
- Institutions can help students identify and locate previously enrolled students from their high school or community, and/or establish a peer counselor or mentor system.
- Academic and student affairs people can help families of first-generation students to better understand and prepare for their child's stressers and academic demands in that first year.[1]

First-generation students have special needs

The Transition to College Projects have shown that first-generation and ethnic minority students have a harder time making the move from work or school to college than do more traditional students. For the latter, this transition is primarily social, basically a rite of passage, part of the family tradition. For nontraditional students, this transition is not only social but academic. For some students, it may even be a cultural transition. These students may experience a break with family tradition and may experience powerful feelings of separation and loss. We can better help them become active participants in learning if we identify those who are not likely to become active on their own. Students who need guidance on involvement typically:

- are academically and psychologically unprepared for college
- are afraid of failure
- feel lost in a strange academic environment
- are unsure about what questions to ask

"Minority students have significantly less chance of persisting and gaining their degree objectives than nonminorities."

BEST COPY AVAILABLE

[1] Terenzini, P.T. (1983). *The transition to college: Easing the passage.* University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning and Assessment.

- feel that almost everyone in their lives has given up on them
- lack a sense of direction

Students are more likely to succeed if faculty and staff help them negotiate this transition through early encouragement by helping them make connections with institutional life and helping them develop a positive attitude about learning. "College wasn't talked about that much at home. I am from a single parent home. My mother didn't go to college, so I was basically on my own. I had to go out there and hunt for the information" (first-generation female student). Most nontraditional students are not likely to get involved on their own because they fear failure, do not know whom to consult or what to ask, feel lost in an alien environment, and believe that most people have already given up on them.

"It is not enough to simply make support services available."

"Validate" students early and often

A successful transition into college for students was directly related to early and frequent validation in their academic and social experiences. "Validation" occurs when feedback is given that lets students know they are capable learners, that they are valued by the institution, and that they play an important role in their own learning. We contrast a validating supportive environment from its antithesis (chart 2).

Chart 2. Fostering A Validating Classroom

Academic Invalidating Model	*Academic Validating Model*
Students treated as empty receptacles and/or as incapable of learning.	Students bring rich reservoir of experience and are motivated to believe they are capable of learning.
Students expected to disconnect with the past.	The past is a source of strength and knowledge.
Faculty assault students with information and/or withhold information.	Faculty share knowledge with students and support students in learning.
Faculty instill doubt and fear in students.	Faculty structure learning so that students are able to see themselves as powerful learners.
Faculty are experts, the sole source of truth and authority.	Faculty are partners in learning with students.
Students are oppressed, silenced, and cast in subordinate roles.	Students are allowed to have a public voice and share their ideas openly.
Faculty focus on abstract thinking.	Faculty recognize the importance of experience as a base of knowledge and that out-of-class learning is equally powerful.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Students are passive.	**Faculty employ active learning techniques such as collaborative learning, demonstrations, simulations, field trips, etc.**
Evaluation instills fear and is objective and impersonal.	**Learning standards are designed in collaboration with students, and students are allowed to re-do assignments until they master them. Faculty praise success and encourage motivation.**
Faculty and students remain separated.	**Faculty meet with students in and out of class, serve as mentors for students, as well as encourage and support them.**
The classroom is fiercely competitive.	**Students work together in teams and are encouraged to share information.**
Fear of failure permeates the classroom environment.	**A climate of success is fostered by faculty and students.**
Teaching is linear, flowing only from teacher to student.	**Teachers may be learners; learners may be teachers.**
Students are validated at the end of the term.	**Students are validated early and validation continues throughout college years.**
The core curriculum is male-centered and Euro-centered.	**The core curriculum is inclusive of the contributions of women and minorities.**
Students are encouraged to give automated and rote responses.	**Learning allows for reflection, multiperspectives, and imperfection.**

The above chart can be used to assess individual courses, course sequences, and programs to increase student validation and involvement in learning.[9]

This validation should carry its own rewards; that is, when faculty and counselors provide validation for students, the transformation of the student validates them. Ways must be found to help nontraditional students believe that they can learn and that someone cares about their intellectual and social development. The role of the institution in promoting learning and retention must shift from a passive to an active one (see chart 3).

> *If the professor is willing to give that one-on-one to the student, then the student learns.*

BEST COPY AVAILABLE

[9] Rendon, L. I. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education, 19*(1), 33-52.

BEST COPY AVAILABLE

> *Reaching out must be part of planned interventions and of staff responsibilities.*

Chart 3. Fostering a Therapeutic Learning Environment

Interpersonal Invalidating Model	*Interpersonal Validating Model*
Students expect to get involved in institutional life on their own.	Faculty and staff actively reach out to students to help them get involved in college.
Cliques/exclusive groups are allowed to form.	All students are considered important and equal. Student organizations and activities are open to all groups.
The college climate is perceived as sexist, racist, and/or intolerant of certain students.	The college promotes pride in cultural, gender, and sexual orientation through college-sponsored activities and organizations.
The college climate is cold and insensitive.	Faculty and staff are available to students in and out of class.
Students are expected to shed their culture.	Cultural pride is recognized and fostered in and out of class.
Few opportunities are available for out-of-class involvement.	Faculty and staff meet with students at athletic events, in cafeterias, patio areas, in tutoring centers, in the library, etc.
Students feel stressed, unable to make decisions.	Counselors meet with students to teach them stress management, decision-making techniques, and college coping skills.
Students feel isolated.	Students are encouraged to help each other, i.e., providing positive reinforcement, forming friends during orientation, living with and interacting with peers.
Students feel unloved and unsupported.	Events that bring families together with students, such as achievement nights, athletic events, etc., are held throughout the year.

It is not enough simply to make support services available. As stated above, nontraditional students often may not avail themselves of the services. Institutions must seek out the potential beneficiaries and must find ways to adapt and change so as to accommodate the needs of these students (see chart 4).

Chart 4. How to Validate

Examples of invalidation	*Examples of validation*
Faculty and staff who discount life experiences.	Faculty who work closely with students and push them to excel.
Faculty who appear not to care.	Faculty who encourage students to work together and help each other.
Friends who tease students about not attending a "real college."	Spouses who provide support and encouragement.
Out-of-class friends who do not care about academics and want the students to socialize with them.	Faculty who treat students as equals and respect students.

Our research has drawn upon involvement theory,[1] which has guided the thinking of student affairs professionals. This theory suggests that the more a student gets involved in the total college experience the more successful that student will be. While our research supports this basic premise, the theory does not discuss the problem of the student who does not know *how* to get involved. Offering mechanisms for student involvement — tutoring centers, learning centers, and career centers — is not the answer to helping these students make a successful transition to college; instead, the institution must be proactive in terms of helping students who feel intimidated by the system. Reaching out must be part of planned interventions and of staff responsibilities.

> ***"Most nontraditional students are not likely to get involved on their own because they fear failure, do not know whom to consult or what to ask, feel lost in an alien environment, and because they believe that most people have already given up on them."***

[1] Astin, A. (1991). *Assessment for excellence. The philosophy and practice of assessment and evaluation in higher education.* San Francisco: Jossey-Bass.

III. Faculty and Teaching: Research You Can Use

> *"Students' perceptions of an instructor's abilities contribute to the learning process."*

NCTLA has defined four domains of faculty work: teaching, research/scholarship, professional growth, and service.*

- *Teaching* includes time spent preparing for classes, classroom and laboratory instruction, grading, and working with students.
- *Research/scholarship* covers time spent in activities leading to an intellectual product—article, monograph, report, book, software, patent, performance, exhibition, grant proposal.
- *Professional growth* includes time spent enhancing knowledge and skills in ways that do not necessarily result in a concrete product—library work, reading, exploratory inquiries, computer use, conference attendance.
- *Service* involves time spent at institutional meetings, community activities, and professional association involvement.

Faculty discussions about curriculum redesign, instructional innovation, and student advising are largely guided by disciplinary and specialty knowledge rather than by commitments to enhancing growth in student cognitive abilities and workplace skills or to broader aims of liberal learning. Beyond individual faculty initiative, little departmental support is given to pedagogical innovation.

Clear, Well-organized Teaching Does Lead to Greater Learning

In our *National Study of Student Learning*, students who showed clear gains in key subject areas and cognitive skills reported enrolling in classes with specifically designed curriculum goals, a well-prepared instructor, and instructional strategies that presented ideas and concepts clearly. Students' perceptions of an instructor's abilities contribute to the learning process. "To me, the student takes a one-on-one approach, and if the professor is willing to give that one-on-one to the student, then the student learns. Whereas if the student or the professor, either one, shuts out the other, then that line of communication is gone and learning is not developed" (male student).

* Mingle, R. J. (1992, October-November). *The new faculty project: Conceptual model and plans for year two.* Paper presented at the annual meeting of the Association for the Study of Higher Education, Minneapolis, MN.

Although half-day, one-day, or two-day faculty workshops are not in themselves effective vehicles for imparting teaching skills, effective teaching can be taught. Faculty attention to skills of preparation, organization, and communication can be part of faculty development plans and could be important factors in faculty evaluation.

Faculty already know the issues

From our studies, we know that faculty recognize the following:

- Students have difficulty with a number of academic processes (such as synthesizing various pieces of an argument, analyzing data in a research report, and perceiving complex mathematical concepts).
- A number of constraints, including entering students' abilities, problems with the organization and delivery of course content, or physical constraints on the teaching/learning environment, explain these difficulties.
- Tasks with which students are engaged—homework, laboratory experiments, term papers, in-class group work, and so forth—are important catalysts for helping students to overcome difficulties.
- Faculty are willing to make changes that help students overcome their difficulties.

Faculty are innovating. About 5 percent of all courses and classes in college catalogs are new or changed each year. Unfortunately much of this change and energy is guided by hit and miss experimentation because faculty do not regularly receive and use assessment information beyond their classroom. Also, they had had no formal professional development in implementing changes that enhance learning.

While colleges and universities have used Student Rating of Teaching Effectiveness (SRTEs) for years, no clear evidence supports a relationship between high SRTEs and improved long-term learning for students. Now NSSL provides that link to two specific areas commonly measured by the SRTEs: teacher preparation and the clarity of instruction. Conversely, NSSL did not find strong relationships between learning gains and other areas commonly measured by the SRTEs.

Faculty, like students, learn best through a planned, cogent, coherent sequence of learning activities that provides sufficient time on task to insure mastery of what is to be learned. Instruction during graduate programs in the field of specialization, as well as on-going faculty development programs, are needed to improve the instructional effectiveness of faculty. Faculty need such training if the majority are to provide meaningful, accurate, and helpful guidance to students.

Faculty development needs assessment data

Faculty development plans rarely take student assessments into account, yet assessment data are being sent to institutional research offices, chief academic affairs officers, and general education curriculum committees, and are being placed in student portfolios. Too few campuses regularly use assessment information at the departmental level to improve and enhance undergraduate teaching. Assessment can guide us not only in the improvement of student learning but also in how we teach.

For institutions designing assessment programs, we recommend that 1) faculty be involved in framing the questions that assessment should answer, 2) information be collected at the course level in sufficient detail to permit problem diagnosis as well as problem identification, and 3) particular faculty, department chairs, and others be

> ***"When you establish close eye contact with students you get immediate feedback concerning how they are plugging in, or not plugging in, on various arguments."***

BEST COPY AVAILABLE

designated to oversee the implementation of changes based on assessment results.

Faculty members should be encouraged (and given the institutional support) to provide more active instructional settings as well as more frequent feedback on student work and progress.[2] Current student evaluation practices that provide feedback only at two points in a semester/quarter (e.g., at mid-term and at the end of the term) are unproductive in facilitating either student learning or a sense of belonging to an academic community. Faculty evaluation and ensuing faculty development can be refocused on promoting active and collaborative learning, the use of student feedback as guide and motivator, and the use of persistence, progress, and development criteria in reflecting upon and evaluating their own curricular designs and instructional strategies.

> *"When you establish close eye contact with students you get immediate feedback concerning how they are plugging in, or not plugging in, on various arguments."*

Instructional development provides feedback

Instructional consultation in which faculty undertake a structured examination of their own teaching is used in the U. S. and Canada. Specifically, faculty members elicit feedback from students, colleagues, and/or a faculty developer and interpret the information gathered with at least one other person—the "consultant." The consultant usually holds a faculty development position or is a faculty colleague who has specialized training. In some programs, students serve in the consultative role. Many colleges and universities have established centers, offices, programs, committees, or individuals to promote faculty and instructional development. The most effective consulting attributes are friendliness; approachability and courtesy; trustworthiness and ability to keep confidences; empathy and comparison; perception; and intuition.[3]

"Before every semester we have been having little orientations. I let him [instructional counselor] come in and talk to the professors [about what] they can do to help the students. I mean I don't want to take the approach, 'you guys are insensitive,' but more, 'what can you do to be more sensitive?'" (department chair at an urban college).

Our investigation of instructional consultation studied ways persons can be trained to consult with faculty about teaching innovations, techniques, and problems. We found that consultants are particularly valuable for helping faculty 1) clarify teaching goals and select approaches that match those goals, 2) understand student course evaluations and other feedback and make changes based on that information, and 3) plan evaluations of new teaching strategies. Student evaluations are often more positive after the teacher has worked with a consultant. We recommend that instructional consultation be available to all faculty through trained teaching center professionals and/or trained volunteer colleagues.

Teaching centers have an essential role to play in supporting faculty as teachers and in preparing graduate students for future teaching responsibilities as faculty. Faculty deserve assistance from the experts on pedagogy, evaluation, and technology who staff these centers. Faculty also value the consultation services that centers provide, particularly if those services are confidential and independent of procedures for performance review. Centers should have a measure of autonomy from academic administrators, and faculty should be closely involved in their governance. By helping to set center policies and priorities, faculty can ensure that programs and services have high credibility.

---

[2] Tinto, V, Love, A. G., & Russo, P. (1993). *Building Learning Communities for New College Students.* University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment.

[3] Lenze, L. F., & Menges, R. J. (1993, April). *Materials for training instructional consultants.* Paper given at the annual meeting of the American Education Research Association, Atlanta, GA. Morrison, D. E. (1993, April). *Exploring the practice of instructional consultation through a typology of programs.* Paper given at the American Education Research Association, Atlanta, GA.

Factors Affecting Faculty Satisfaction

Reward structure

Faculty are rewarded for conducting research more than for building effective learning environments for undergraduate students. The more they teach, the less they are paid; the more research they do, the more they are paid. This is true in virtually all types of colleges and universities from the smallest liberal arts college to the largest research university, and in every academic discipline. Promotion and tenure decisions come only once or twice in a career; annual pay increments, release time, and summer salary supplements are more frequent opportunities for institutions to reward faculty. Departments and programs cannot demonstrate commitment to improving teaching and the learning environment without showing that rewards are allocated on the basis of teaching effectiveness.[1]

Rewards favor research

Faculty who spend more time in the classroom are paid less than colleagues who are predominantly researchers. While four out of five colleges and universities engaged in discussions about improving instruction and reforming curriculum, faculty still are disproportionally rewarded for their research. Summer stipends for research, graduate assistantships and secretarial help, and release time from regular teaching duties are given to faculty far more frequently than comparable assistance for instructional innovation, curricular design, or out-of-class activities in support of student learning—specifically, we found that:

- The average faculty salary ranged from a low of $34,307 for those who spent more than 72 percent of their time on teaching to a high of $56,181 for faculty who spend less than 35 percent of their time on teaching.
- For faculty at comprehensive universities, no salary difference was uncovered between those spending 53 percent of their time on teaching and those who reported spending 72 percent of their time on teaching.
- Faculty with the lowest salary have between 6 and 11 classroom hours a week and are the ones who typically teach the bulk of a department's classes.
- Faculty with the least amount of student contact hours earned the highest salaries.
- The more refereed publications a faculty member publishes, the higher the salary. Faculty with more than 30 career publications earned an average of $56,183 while those with 2 or less earned $33,198.
- For all four-year institutions, faculty who spend more time on research and publishing and less time on teaching earn the highest salaries.

Administrators need to rethink how to reward faculty efforts to improve undergraduate education; such rewards, at a minimum, need to be on par with research rewards. Such rethinking should include rewards for faculty efforts to plan coherent curriculum, to improve the general advising of students, and to foster climates of constructive dialogue and innovation. Faculty, particularly new faculty, can be viewed as learners, too.

"Faculty are rewarded for conducting research more than for building effective learning environments for undergraduate students."

[1] *Fairweather, J. S. (1993). Teaching, research, and faculty rewards: A summary of the research findings of the faculty profile project. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.*

For institutions seeking to establish a faculty culture that values teaching, we recommend that policies regarding faculty—policies concerning hiring, promotion and tenure, evaluation procedures, merit pay, teaching awards, and opportunities for development—be carefully crafted to express unambiguously the value of teaching. Faculty will place a higher value on teaching when institutional policies and practices reflect that value. When the institution shows a commitment to teaching, student learning may truly flourish.

> *"I work extra hours. Maybe that causes more stress, but then again, it does get things done."*

Teaching awards

Teaching awards are offered on many campuses. NCTLA has examined the design and conduct of teaching award programs at several colleges and universities. We identified those features of award programs that were regarded as successful on their campuses. We concluded that it is feasible to use data from students to select those to be honored and that faculty can provide a perspective that complements the perspective of students. Awards should honor a variety of teaching roles and styles, not just effective presenters in large classes, and should recognize the contributions of teams and departments as well as individuals.

For institutions that seek to use special awards as a means of recognizing teaching, we recommend a) that the criteria and procedures on which awards are based be made known, b) that awards reflect the varied aspects of faculty roles in teaching and curriculum development (rather than primarily excellence in classroom presentations), c) that the number of awards be sufficient to encourage deserving faculty to apply, and d) that award recipients be expected to share their insights and skills with the larger faculty community.

Faculty stress

Faculty stress comes from feeling overwhelmed by both work and personal responsibilities. "I have just walked into a position where everything needs to be done. I have to develop the program and worry about the budget; these things alone are full time. Preparation for two new courses. Then, there are things not related to my field; they weren't in the job description" (faculty member). Our study uncovered the following sources for high stress among postsecondary faculty members:

- Personal stress—family, marriage, child care, finances—was the number one reason for faculty tension.
- Teaching load and time pressures ranked as the second and third stress factors.
- New faculty in research institutions cited research pressures as their strongest stress factor.

Understanding faculty stress can enable us to guide new faculty to use their energies and talents in the most productive manner.* "[It's been stressful] especially lately. I have four sections, two new courses. Now papers have come back from students that have to be graded. My wife's mother passed away...my kids are halfway across the country...it's very hard." Personal and professional factors compound stress levels for most people who feel pressure to do more than time will allow in order to live full personal lives and have productive careers.

---

* Dunham, S. M. (1992, November). *New faculty describe a life of stress.* Paper presented at annual meeting of the Association for the Study of Higher Education, Minneapolis, MN

New faculty concerns

In most cases, new faculty are less involved in institutional governance, service work, and administration than senior faculty. They carry heavier teaching loads, spend more time on teaching, and spend less time on research than senior members.[1] Based on a three-year study of new faculty at five institutions, NCTLA uncovered the following results:

- 80-85 percent of these new faculty are satisfied with their career choice
- 50 percent of these new faculty reported perceiving their institutions as positive workplaces that provide opportunities for challenge and advancement.
- Less than 50 percent of the new faculty in the community college district have a terminal degree although social science and natural science faculty were more likely to have completed that degree.
- At both two-year and four-year institutions, social science faculty had the most teaching experience during graduate school while humanities and professional/applied sciences had the least experience.
- New faculty in the community college district reported a higher level of salary, more support of their work, and greater institutional satisfaction than their colleagues at four-year colleges and universities.
- Social science faculty generally showed the least amount of satisfaction.
- These new faculty reported spending more time on teaching and less time on research than they thought their institutions expected.
- New faculty across all institutions reported that students can think for themselves, can share ideas and work cooperatively, need frequent feedback, and are appropriately challenged by course requirements.
- Only one-third of these faculty had mentors. Faculty in the liberal arts, natural, and applied sciences were more likely to have mentors than their colleagues in other fields.

We studied the perceptions of recently hired faculty about how their performance is evaluated and found that many are troubled by prevailing evaluation policies and practices. It is apparently very difficult for institutions 1) to make expectations sufficiently clear so that faculty know how much work is expected and what standards that work should meet, 2) to provide performance feedback that is sufficiently detailed so that faculty become aware of strengths and weaknesses and know what to do differently in order to make desired changes, and 3) to accomplish all these without creating undue anxiety and unnecessary paper work.

> *"Before every semester we have been having little orientations."*

New faculty and gender

Within institutional type, few gender differences were uncovered among these new faculty.[2] In general, more females and faculty of color are being hired. The following findings summarize NCTLA's discoveries concerning new faculty's gender differences:

- Females are less likely to have a terminal degree than males.

[1] Trautvetter, L. C. (1992, November). *A portrait of newly hired faculty at different institutions and in five disciplinary fields.* Paper presented at the annual meeting of the Association for the Study of Higher Education, Minneapolis, MN.

[2] Monge, R. J. & Trautvetter, L. C. (1993, April). *Socialization of newly hired female faculty across types of institutions and disciplines.* Paper presented at the American Educational Research Association, Atlanta, GA.

BEST COPY AVAILABLE

- More males are in natural science and social science fields than females.
- Males at liberal arts institutions were more likely than females to indicate that colleagues and department quality were important factors for choosing an institution.
- Males reported higher levels of satisfaction with perceived control and authority to make decisions.
- Females reported a higher level of satisfaction with student quality at comprehensive universities.
- At comprehensive universities, female faculty reported believing more strongly than their male counterparts that students need frequent feedback on performance.
- Half of the female faculty with mentors reported having a female mentor.

We suggest that institutions examine the experiences and needs of their female faculty, particularly junior faculty. Depending on the results of that examination, we recommend 1) that position descriptions clarify the relative effort expected for different components of faculty work, 2) that women faculty be offered counseling and workshops on managing time and stress and on balancing teaching with other work demands, and 3) that support be provided for collaborative teaching and collaborative scholarship. Many male faculty may also profit from those services.

> *"I'm a good teacher of Spanish; I'm a minority from the area, a good role model."*

Newly hired faculty of color

Newly hired faculty of color are aware that their racial origins may have factored into their appointment. Like their non-ethnic counterparts, these faculty contend with issues of time management and adapting to their profession.

- Thirty-eight percent of newly hired faculty of color at these five institutions believed they were hired based on their experience and minority status.[7]
- One-third of the faculty of color reported having mentors. Eighty percent of those mentors were chosen by the new faculty themselves.
- In four-year institutions new faculty of color spent 60 percent of their time on teaching compared to 80 percent reported for those at the community college district.
- At the community college district, faculty of color reported that they believe their institution expects them to spend 80 percent of their time on teaching while their white colleagues reported 65 percent as their perceived expectations.

We recommend that colleges and universities examine the experiences and needs of their faculty of color, particularly junior faculty, and provide appropriate support to them for handling the distinctive challenges of their jobs. We note that many white faculty may also profit from such services.

[7] Trautvetter, L. C., Quinn, J. & Lenze, L. F. (1993, April). *A Portrait of newly hired faculty of color at four-year and two-year institutions.* Paper presented at the annual American Educational Research Association, Atlanta, GA

Feeling 'in control'

New faculty members' perceived control over their careers was found to be important for their effectiveness, even more important than previous experience and gender. Feeling that one is in substantial control of one's own fate positively impacted job satisfaction, the demands of balancing teaching and research, and the general level of stress. The institution's expectations about faculty work are also important. Positive associations were found between faculty members' perceived expectations for teaching development behaviors, incidence of engaging in those behaviors, and anticipated sanctions for persons who do not engage in those behaviors.[9]

> *"[It's been stressful] especially lately. I have four sections, two new courses. Now papers have come back from students that have to be graded. My wife's mother passed away...my kids are halfway across the country...it's very hard."*

[9] Perry, R.P. & Menec, V.H. (1994, April). Faculty in transition: A self-efficacy perspective on new hires. Paper presented at American Educational Research Association, New Orleans.

IV. Institutions: Research You Can Use

"The role of the institution in promoting learning and retention must shift from a passive to an active one."

Students Learn in *All* of our Institutions

How much students learn, and how quickly they learn, are questions of interest at all kinds of institutions. Achievement can be seen in a variety of institutional settings: the community college, the historical black college and university, the liberal arts college, the comprehensive institution, and the research university.

Although significant differences in students' entering abilities and matriculating levels were uncovered between types of colleges and universities, each institution hosted a large number of students who clearly profited from their educational experiences. So, the good news begins with students learning in all our institutions across the broad spectrum of American higher education.

Two-year vs. four-year colleges

After the first year in college, our study showed similar cognitive gains between students at two- and four-year colleges in reading comprehension, mathematics, critical thinking, and composite achievement. These similarities indicate that students who begin college at two-year institutions do not sacrifice intellectual gains. Two-year colleges' cognitive impacts may be indistinguishable from those of four-year institutions.

Match Program and Service Goals with the Institution's Mission

We found that many colleges and universities don't make sure that the goals of all of their programs and services are consistent with the mission of the institution. For example, a university may claim it wishes to provide students with an understanding and an appreciation of other peoples and cultures, but offers no practical, comprehensive plan for the student to experience another culture's art, music, history, language, sociology, and politics. A single diversity course does not accomplish this broad educational aim. In the 85 percent of institutions who use distribution requirements for general education, it is not clear how 20 credits in humanities or 20 credits in social sciences will specifically assist a student in accomplishing this aim.

Many community colleges may say that their educational aim for students is simply for them to transfer to a baccalaureate-degree granting institution. The problem with such a

statement is that it does not define what the student is to learn, other than to imply that the second institution's requirements should somehow be taken into account. It does not explain why the student is to enroll in 20 credits of mathematics and science or 20 credits of social sciences as part of the general education degree requirements. In general, colleges and universities have not explained sufficiently and precisely how they plan to accomplish their educational aims.

Advancing Diversity: Issues of Ethnicity and Multiculturalism

At one of the colleges where NCTLA researchers collected data on organizational change, an African American student spoke these words in a faculty senate meeting:

"The word 'multiculturalism' is just a word. I am looking at you and I am listening to what you are saying and thinking how closed-minded you are. No one here practices multiculturalism. The ones who practice it are multicultural —African Americans and Latinos. Multiculturalism is not something you say; you have to do it. *You have to like it!* The policies of this colleges do not reflect a concern with multiculturalism. Our courses do not reflect the history and literary traditions of our community. To you, 'multicultural' is a word you twist and turn."

Many faculty and department chairs confessed that they don't know what multiculturalism is. One department chair asked, "I don't know what it means. Does it meant that I will have to teach from all those different perspectives, that first I will present the European perspective and then look at it from the Afrocentric perspective? I don't think that there are very many models of multicultural education at the college level."

We recognize the enormity of differences that exist among students and between faculty and students. We do not believe that institutions can or should be all things for all people, but many colleges and universities are not taking multiculturalism seriously. Diversity courses are add-ons rather than integral parts of curriculum reform and redesign. Our research suggests that understanding other peoples and perspectives can be very positive for students. Yet, the institutional approach to multiculturalism often has been to treat diversity as a human relations problem rather than as a need to rethink teaching and learning practices.[11]

Diversity is not achieved by holding the art and literature of another culture up to the standards of a prevailing one. Saul Bellow said, "When the Zulus produce a Tolstoy, we will read him," but we know studying about the Zulus is valuable precisely because such study *will not* reproduce the standards, values, and judgments of Western culture; it will represent an art and an aesthetic all its own.[12] Studying ideas, cultures, and perspectives other than one's own was linked to the development of intellectual inquisitiveness and critical thinking in the NSSL research.

Taking multiculturalism seriously involves the re-examination and transformation of knowledge and pedagogy with the aim of fostering a critical analysis of how differences, including race, gender, ethnicity, social class, and sexual orientation, are involved in the social construction of the curriculum. Taking multiculturalism seriously and embedding it in the curriculum and the instructional strategies of the institution will pay dividends in improved teaching and learning.

> ***"Multiculturalism is not something you say; you have to do it. You have to like it!"***

BEST COPY AVAILABLE

[11] *Benimon, E. M. (1994). Multicultural teaching and learning. University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning and Assessment.*

[12] *Taylor, C. (1992). Multiculturalism and the politics of recognition. Princeton, NJ: Princeton University Press.*

"The word 'multiculturalism' is just a word."

Perceptions of prejudice are race-bound

Most nontraditional students are not likely to get involved both in curricular and extracurricular activities on their own because they fear failure. This is not an inherent weakness on their part. They simply do not know many people who have attended college, and they may view it as a hostile or alien environment as a result. They do not know whom to consult or what to ask, and based on their prior encounters with the educational system, they may believe that most people have already given up on them. The learner's perception of the college climate—whether it is seen as welcoming or cold—also is largely dependent on his or her ethnicity. White students, for example, consistently perceive significantly less prejudice against ethnic minority students on campus than do students of color. On the other hand, white students with initially greater openness to diversity were more likely to have socially diverse student acquaintances and to discuss issues of race, ethnicity, or culture more frequently.

Researchers have long debated the pros and cons for African American students' attendance at historically Black institutions. While some have criticized these institutions for lacking important resources such as library and computer facilities and having fewer distinguished faculty, others have championed these colleges and universities for their ability to create a comfortable climate and positive sense of community for their students. Our research uncovered similar first-year gains in reading comprehension, mathematics, critical thinking, and composite achievement between African American students attending historically Black colleges, and African American students at predominantly white institutions. Our findings suggest that historically Black colleges may create social and psychological environments that support their students' intellectual development, despite possible limitations in educational resources.[11]

We found that the goal of teaching for diversity cannot be obtained through a single course approach. Efforts in the 1980s to establish core curricula may actually mitigate against providing curriculum appropriate to diverse student needs, interests and abilities. Assessments have been designed using a narrow range of measures based largely on knowledge, traditions, communication skills, and values advocated by the dominant culture. We should, for example, welcome second language students as people who can help us engage in the global marketplace rather than picturing them as learners with an educational deficit. This new perception will encourage educational programs that celebrate and capitalize upon the diverse strengths of our people.

How to foster openness to diversity

"One of the things that we have to do is to broaden [students'] views and show them how connections are made between the kinds of things that are important to them and the things that are important to people in other cultures, how those cultures parallel their own lives" (faculty member).

Institutions should foster a nondiscriminatory racial environment if they want their students to display an openness to diversity and challenge. Our research strongly affirms the value of diversity workshops for improving campus climate for all individuals, which in turn, can improve the educational environment. These findings lead us to conclude that students' early exposure to peoples, perspectives, cultures, and ideas other than their own may enhance their intellectual development and inquisitiveness. Students are more likely to discover the rewards of an open attitude if they live in an on-campus residence and/or participate in a racial or cultural awareness workshop, and also if they become

[11] *Rendon, L. I. & Jalomo, R. (1994). Negotiating the first year of college: Validating culturally diverse students. Paper presented at the annual meeting of the Arizona Association of Chicanos in Higher Education, Tucson, AZ.*

involved with peers from diverse groups and backgrounds. These positive effects were stronger for white students than for non-white students. Students who agreed with statements such as those below also showed greater growth in intellectual inquisitiveness and critical thinking on assessments during their first year of college.*

- "I enjoy having discussions with people whose ideas and values are different from my own."
- "Learning about people from different cultures is a very important part of my college education."
- "I enjoy taking courses that challenge my beliefs and values."
- "The courses I enjoy most are those that make me think about things from a different perspective."
- "Contact with individuals whose background (race, national origin, sexual orientation) is different from my own is an essential part of my college education."

Students were more likely to respond positively to statements such as those above as they progressed through college. Those who responded more positively also showed significant achievement on critical thinking assessments. Those students who had participated in diversity workshops were also more likely to respond positively to the above statements.

Colleges and universities who operate diversity workshops should recognize their value in expanding and increasing students' disposition to think critically and to be open to the ideas, cultures, values, and perspectives of others. Faculty and administrators can foster students' openness to cultural, racial, and value diversity by involving students with peers who are different from themselves; this involvement may take the form of cultural awareness workshops.

Out-of-class experiences in the student's first year in college–involvement in clubs and organizations, attendance at racial/cultural awareness workshops, and student perceptions of faculty concern for student development–were found to be as important to the development of certain cognitive skills and critical thinking as in-class experiences. Out-of-class experiences also contribute to persistence decisions.

These findings lead us to conclude that students' early exposure to peoples, perspectives, cultures, and ideas other than their own fosters intellectual development and inquisitiveness. This exposure can be achieved through cultural studies centers, student clubs and organizations, service learning, collaborative learning, or sororities and fraternities. Colleges and universities can view these subenvironments as powerful influences, positive or negative, on student learning and development.

All students are not created equal

As a way to be fair and equitable, many institutions act as if all students are the same. While most colleges and universities have recognized the growing diversity of students within their halls, they have not incorporated this knowledge in effective and concrete ways into planning their educational program and services. Activities and efforts at the institutional level treat diversity as a human relations problem rather than as a means to enrich the educational experiences of faculty and students. Educational programs and services remain atomistic, lacking coherence, and cogence, or relevance given the variety of students.

> *One of the things that we have to do is to broaden [students'] views and show them how connections are made between the kinds of things that are important to them and the things that are important to people in other cultures, how those cultures parallel their own lives.*

* *Terenzini, P.T., Springer, L., Pascarella, E. T., & Nora, A. (1995). Influences affecting the development of students' critical thinking skills. Research in Higher Education, 36, 23-39.*

BEST COPY AVAILABLE

Institutional leaders generally think of colleges and universities as a single "community" rather than as a number of "communities of difference." Not surprisingly, then, many institutions are not organized to meet the needs of diverse student populations—particularly racial, ethnic, and linguistic minorities.

Although institutions with diverse populations often place greater emphasis on multicultural education, the reality is that they tend to define multicultural education as a strategy to foster diversity or to improve human relations rather than as another path to intellectual or critical knowledge. Teaching and learning innovations have to be viewed as a rethinking of structures, values, practices, and policies, and need to take into account the lives, histories, and culture of students and faculty. Institutions need to differentiate between a vision of stability and a vision of ongoing institutional transformation and change and then encourage appropriate teaching and learning strategies.

Teaching and learning innovations have to be viewed as a rethinking of structures, values, practices, and policies, and need to take into account the lives, histories, and culture of students and faculty.

Institutional access

NCTLA research verifies that postsecondary education provides access to underrepresented groups when access is viewed as the right to apply and be admitted. However, we found that it is unwise to admit students who cannot benefit from the educational programs that the institution offers. We found institutions that admitted students who fall below their admission criteria in order to fulfill their enrollment objectives. For example, an institution that aims to admit 6,000 new students in one year may have only 5,500 qualified applicants. Because the institution is heavily reliant on tuition for operating expenses (as state and federal support decline), campus administrators are more inclined to "dip down" in the applicant pool below the admissions standards in order to make the enrollment goal of 6,000. However, we find that those low-ability students may have as little as a 1 in 11 chance of succeeding at college. They often become next semester's drop-outs.

In our curriculum research, we found the top one quarter of entering students *at each institution* most likely to succeed. However, the abilities and prior achievement of the top one-quarter of students entering a not-too-selective liberal arts college were nearly identical to the bottom one quarter of students at an extremely selective research university. In this example, students at the bottom were more likely to show weaker achievement and performance, were less likely to persist, were slower in their progress, and were less likely to attain a degree. The top quarter in both institutions were the most likely to succeed. Yet the students in the bottom of the selective institution were similar to the top of the less selective institution. Clearly, those students in the bottom quarter at the selective institution would most likely have succeeded and prospered at the less selective institution.

This example reaffirms that it is the match between students' abilities and the educational programs and services which is the key to success. It also suggests that institutions should not admit students if they do not have the programs and services attuned to the prior achievement, abilities, and interests of the students. This finding holds not only for differences in ability and prior achievement but also in terms of race and ethnicity as well.

It is in the public interest not only for underrepresented students to be able to apply for or be admitted to higher education but also to have satisfactory educational preparation and financial resources to succeed in college. They need an equal opportunity to benefit from the educational experience they receive. Clearly gross inequities for these students lie imbedded in higher education as well as our society at large. Students with limited financial resources often must attend commuter-based institutions. Such institutions enroll students with lower rates of persistence and graduation.

Underrepresented groups should have sufficient financial support in order to enroll in the

college or university best able to provide an education appropriate to their needs, interests and abilities. Otherwise, students from these groups will be tracked into learning environments least able to provide them with the support to succeed and persist, and they will remain the underrepresented in higher education and in our society.

Remedial work necessary

Underrepresented students must be included with the mainstream if they are to succeed. They should not be pulled out of "legitimate" college courses and placed in remedial tracks. Although improvements in elementary and secondary schools are desirable, no such improvement will directly benefit students who are beyond high school age, who may already have a diploma, or who may be seeking to improve themselves educationally.

Many students skilled in math and science possess weak verbal and communication skills; conversely, there are bright writers and speakers who are weak in math and science. The pre-college developmental and remedial courses necessary for student success are expensive forms of instruction, but they deserve full funding and support from the institution and the state. Too often, developmental and remedial programs are poorly staffed and funded.

Despite current efforts to improve elementary and secondary education in this country, there will be a considerable backlog of adult students who will not have had sufficient educational preparation to enter and succeed in the full range of subjects and abilities demanded of today's undergraduates. Throughout the history of American higher education, colleges and universities have made provisions for students who lacked sufficient educational background to succeed in the undergraduate program. In the 1960s, half of the students attending the University of Arkansas were reportedly "precollegiate." This was simply due to the lack of quality secondary education at the time. Today, colleges and universities of all calibres offer precollegiate, remedial, and developmental courses to bring students with educational deficiencies "up to speed." To cut or fail to provide such courses defeats access to higher education.

Remedial and developmental courses are also not well understood in state government. Legislators and state officials often do not fully understand why a college or university admits students who did not have all the prerequisite skills to succeed in our institutions of higher education. We need to articulate the fact that a student seeking assistance in a developmental writing laboratory, does not preclude the possibility that she might also be quite brilliant and talented in mathematics, science, art, or music. There is an ongoing need for developmental and remedial education programs in order to undergird our social commitment to access in higher education.

> *"Underrepresented students must be included with the mainstream if they are to succeed."*

Building an effective curriculum

Our curricular research shows that approximately 5 percent of all courses in any one year are new, experimental, and/or offered once, evidence that experimentation is taking place. Unfortunately, much of this experimentation is occurring in single courses rather than cogent and coherent curricular sequences, making student learning atomistic and unconnected with the aims of general education and liberal learning.

While a large number of faculty engage in experimentation, their efforts are not coordinated or targeted to the improvement of sustained learning of students either in general education or the major. Much of the innovation occurs at the upper-division level in the specialty interests of the faculty. We must work to remove those factors that discourage faculty from participating in collaborative exploration and innovation, particularly within the lower division. Leadership among academic administrators is

BEST COPY AVAILABLE

crucial in creating a campus climate in which instructional and curricular innovations can occur.

Just as student abilities, backgrounds, and interests vary greatly in most postsecondary institutions today, the universe of available course work and curriculum is expanding rapidly. In universities, today's undergraduates have from 3,000 to 5,000 courses from which to choose the 35 to 45 they will take as part of their baccalaureate program. In colleges, the number from which to choose ranges from 800 to 1,500 courses. The exploding and expansive curriculum reflects the explosion of knowledge, the professionalization of new fields, and the reliance of society on colleges and universities to provide the future with knowledge workers and leaders.

We find much innovation inside the curriculum as well. On average, approximately 5 percent of courses offered in a given year will not have been listed in that year's college catalog or university bulletin. These are experimental courses, new additions, and significant modifications to the program of study. The cumulative effect is that 20 percent of the course choices that a first-year student encounters at a given college or university this fall were simply not available to the graduating senior.

The undergraduate curriculum is still dominated by the disciplines, grading is used as the sole means of assessment, and the accumulation of credits as the sole indicator of student learning. Colleges and universities need an effort-based curriculum driven by clear standards for the attainment of educational goals, by concrete and targeted assessment of the long-term learning achievement of students, and by timely and informative feedback to students and to faculty so that they can redirect their efforts to improve learning productivity and teaching effectiveness. Several steps can be taken.

Leadership among academic administrators is crucial in creating a campus climate in which instructional and curricular innovations can occur.

Make cognitive skills part of the curriculum

Although gains students make in skills such as oral and written communications, critical thinking and problem-solving, or quantitative and computational skills are not directly associated with the traditional disciplines, they control how faculty organize learning. Organizing general education requirements around courses in major disciplines only addresses content learning. Fulfillment of these distributional requirements does not lead to strong thinking or communication skills. Instead of organizing basic requirements solely around content and subject matter, we need to identify faculty who can develop courses to foster or strengthen these lifelong skills.

Several colleges and universities are meeting this challenge head on. California community colleges include courses with critical thinking skills embedded in the curriculum. Many colleges and universities have implemented writing-intensive courses (outside the English or writing departments) and use writing across the curriculum strategies to assess student progress. Institutions as diverse as Kings College in Pennsylvania and Utah State University are implementing computer and information technology competencies and assessments for undergraduates. Portland State University has designed a year-long inquiry course for first-year students to advance critical analysis and a commitment to lifelong learning.

Our research shows that clear goals, organized curriculum, and instruction leads to effective learning of key cognitive skills—what employers often refer to as the non-technical skills of a job. As organizations move toward work teams rather than discrete job assignments, they increasingly need knowledgeable workers and technicians with the ability to communicate effectively, to solve problems and to seek solutions, and to perform quantitative analyses for the improvement of the organization. These skills can and should be taught.

Match student abilities with curriculum

We found that students learn more when there is a match between their abilities and the curriculum. Therefore, institutions need to regularly examine what they are trying to accomplish and to determine what is contributing to student success and what is not. Assessment is a more powerful tool if it takes all factors into account: the actual achievement of various student groups, information about the available courses, and the nature and intensity of out-of-class experiences.

Students learn more from logical sequences of courses that build on one another. For instance, we find that a student enrolling in one five-credit course in physics, one five-credit course in chemistry, and one five-credit course in biology does not show much achievement in scientific knowledge and reasoning, or in analytic or quantitative skills, even though he or she may have completed the general education requirements of the degree (i.e., fifteen credits in science). A second student of comparable ability taking a planned sequence of coursework in one of those scientific fields (e.g., organic, inorganic, and molecular chemistry) acquires more general knowledge and is more familiar with key terms, concepts, models, theories, methods, and modes of inquiry associated with the discipline. General coursework and work in the major is more effective when it requires students to engage in planned sequences of learning and offers a modest diversity of such sequences.

> *"Students learn more when there is a match between their abilities and the curriculum."*

The Disciplines are not the villains

Disciplinary learning has eroded at the undergraduate level with the mixing of interdisciplinary, thematic, and issue-driven courses. Our research suggests that disciplinary learning provides a valuable and necessary component of the undergraduate program. Each discipline has developed a language of its own, consisting of key terms and concepts, models, themes and theories, and methods and modes of inquiry. However, casual acquaintance with disciplines is not synonymous with deep learning. A student who takes introductory courses in chemistry, biology, and physics is not as likely to show significant gains in scientific reasoning, knowledge of scientific concepts, or an understanding of scientific methods of inquiry as will a student taking a planned sequence of instruction consisting of three-credit courses in organic, inorganic, and molecular chemistry.[1]

The general education component of the undergraduate curriculum should not forgo disciplinary learning; instead, it should be structured so as to insure sustained learning and inquiry in selected disciplines. Breadth and depth remain accepted and valuable goals for general education, but the depth of learning should be demonstrable and assessable in the humanities, fine arts, social sciences, mathematics, physical and life sciences.

Student Affairs: Theory into Practice

If theory is to have a relevant impact on improving institutional practice, it must be made relevant for the practitioner. Skeptical practitioners will ask, "Does it work?" The theoretician's responsibility is to observe what happens in student affairs practice, to conduct research to confirm, revise, or refute theory, and then to make that theory applicable for

---

[1] Ratcliff, J.L. (1991). *What we can learn from curriculum patterns about improving the undergraduate curriculum.* University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment.

institutional use. NCTLA advises student affairs researchers and theoreticians to do the following:*

- Accept responsibility not only for developing theory but also for translating it into practice.
- Collaborate with practitioners in theory development.
- Conduct research that tests the theory's efficacy.

Practitioners are also responsible for knowing and using theory in the development of policy, making decisions, managing budgets, creating programs, offering services, and advocating for students. NCTLA advises practitioners to do the following:

- Take the time to stay current with the theory that guides student affairs and to keep researchers informed about the issues confronted on a day-to-day basis.
- Develop a dialogue with theoreticians and collaborate with them in developing theory.
- Direct resources toward the promotion of professional development and theory.

Being up-to-date on research is only half the battle. By demonstrating the strong connection between theory and practice, student affairs personnel can show their institutions how to improve the quality of services and programs available to students. This kind of integration and cooperation is becoming increasingly important for today's institutions of higher education.

> ***"Casual acquaintance with disciplines is not synonymous with deep learning."***

* *Upcraft, M. L. (Ed.). (1993). Designing successful transitions: A guide for orienting students to college. Charleston, SC: University of Southern Carolina, National Resource Center for the Freshman Year Experience. (Publication sponsored by the National Orientation Directors Association.)*

V. What can you do to improve postsecondary teaching, learning, and assessment?

In America's diverse higher education system, each institution educates students, but in which students could learn more, become more involved and invited, be more disposed to inquiry and analysis, and leave more fulfilled and rewarded for their accomplishments in learning. Our goals, our teaching strategies to meet those goals, and the ways in which we assess our success need to change in order for this improvement to occur. By envisioning teaching and learning as more than single courses, content knowledge, and conventional structures, we can begin to move American education into the next century. In this final chapter, we draw together the data and recommendations from nearly 5 years of NCTLA research to propose some actions you can take to improve postsecondary teaching, learning, and assessment.

Welcome Diversity

Throughout postsecondary institutions, great variation exists in student abilities, interests, and prior achievement. This diversity will continue to increase as more Americans from various populations pursue postsecondary education. Improving secondary school standards and easing the transition from high school to college can only partly remedy the problems students entering college face today, in part because a growing proportion of these new students acquired their secondary education some time ago. They are the working adults, the returning adults and armed forces personnel, the workers involved in retraining, the underemployed and unemployed. All contribute to the diversity of the student population.

Like the student population, the knowledge base is expanding and diversifying. For example, the discipline we once knew simply as biology has divided itself into dozens of subdisciplines, reflecting the expanding complexity of knowledge itself. New fields, such as women's studies and computer science, have emerged from within the curriculum and the academy. Most fields of study are developing new modes of inquiry and paradigms for discovery. The curriculum of postsecondary education is dynamic and diverse as well.

BEST COPY AVAILABLE

In order to create a productive and improved learning environment, administrators and faculty must address the needs of the increasingly diverse student body and curriculum.

The college environment and its curriculum of the coming decade will welcome communities of difference —those groups of students and scholars who represent values, viewpoints, and vantages at variance with today's norms. A first step in improving teaching, learning and assessment is to identify key subgroups of students according to the learning criteria of the educational programs. Each key subgroup can promote, foster, and forward a subenvironment conducive to its own success. Recognizing the great variation in student abilities, interests, and prior achievement is fundamental to identifying key subgroups. Identifying who is learning and why in each subgroup can yield resources for understanding who is not learning and why.

For a college or university to meet the educational needs of diverse communities, it needs to provide a variety of appropriate programs and services. We can strengthen our institutional efforts by identifying the diverse student groups we have and then seeking out ways to match them with activities and experiences that they will find engaging, enlightening, and empowering. We can also reform and transform curricula, invigorate our advising, mentoring, and guidance systems, and enhance the development of our faculty and professional staff. Knowing what already works well and what needs to be improved is the first step to increasing student learning.

> *"Knowing what already works well and what needs to be improved are the first steps to increasing student learning."*

Assess development to show pathways to improvement

Our institutions include both students who show great gains in learning and those who drop out, fail, or who choose not to continue. If we add the successes and the failures into one large total, we dilute and obscure the significance of each. That is, the successes of students showing large gains from their college experience are muted, while the strengths of students not profiting from the experience are diluted as well. We need to use assessment and other investigative tools to identify where we are succeeding and where we are not.

Such an effort requires clear and engaging goals, a well-organized, sequential, and coherent curriculum; effective, motivated, and satisfied faculty; content and process standards for educational attainment; as well as timely, informative, and regular assessment and feedback. Because the knowledge base is too complex to be reduced to a few measures, multiple measures and methods are needed to assess learning improvement. However, curricular goals and educational programs cannot be applied to all students regardless of interests, abilities, or prior learning. Students benefit when the institution provides multiple pathways to improvement and develops educational programs that capitalize on diversity rather than ignore it.

What do These Findings Mean for Faculty?

Faculty are the key

Faculty are the key to making the necessary changes for meaningful improvements in undergraduate education. They need to be more supportive of collaborative, coherent curricula. Assessment priorities should change so that faculty spend less time with single course evaluations and more time evaluating the cumulative, developmental acquisition of key knowledge, skills, and abilities that represent the aims of undergraduate education.

By discussing and analyzing strategies and assessments with one another, faculty can then initiate improvements in the curriculum, instructional strategies, and in the advising

system. Armed with hard facts about the effectiveness of their efforts, they should then have reason to expect that such information will be used to reward good teaching.

One size doesn't fit all

Faculty need to plan curriculum, orchestrate instruction, and provide guidance that recognizes and capitalizes on the diversity of students found on today's college and university campuses. Curriculum and instruction can no longer effectively be selected on a "one size fits all" basis. There is too much variation in student background, interest, educational preparation, and ability to conscientiously provide meaningful education this way. The challenge is finding multiple means to tap the potential of the current students.

We know that all students do not come equally prepared to succeed in the college, the program, or the course they select. We know that students do not learn at the same rate. We know that students do not learn the same way or through the same set of activities. We know that differences in student performance may be due to differences in student effort or ability, but they may also result from assuming that they learn at the same rate, in the same way, or through the same activities. While lectures are not ineffective means of instruction, they treat all students the same. While core curricula are not ineffective means of organizing educational programs, they assume all students learn through the same set of activities and experiences.

> *"We know that all students do not come equally prepared to succeed in the college, the program, or the course they select."*

To design effective educational experiences, we need to look at the following:

- the nature and cohesiveness of the students' curricular experiences
- their course sequences and patterns
- the quality of instruction received
- the extent to which faculty actively engage students in the teaching-learning process
- the frequency, purpose, and quality of students' non-classroom interaction with faculty
- the nature of their interaction with peers and their involvement in extracurricular activities
- the extent to which institutional environments promote critical awareness, self-reflection, high degrees of student academic and social involvement, and reaffirmation

What happens to students after they enroll makes a marked difference in how much they learn, progress, perform, persist, and prosper from their postsecondary program. Faculty play key roles in making that experience productive and worthwhile.

Improved teaching requires more than imagination, trial, and error

In order for faculty to be imaginative and successful teachers, they need to be supported by their institution and the nation as a whole. Our work on new faculty (new to the institution) indicates that institutions can do much more to develop instructional skills. Too often, faculty learn about their institution, its curricula, and its instructional resources by trial and error. Similarly, many teach and advise by trial and error rather than any real and planned effort that helps them maximize their contribution to the undergraduate educational program.

BEST COPY AVAILABLE

Plans for development as a teacher should be as prominent a part of faculty evaluation as plans for other aspects of academic work. Our findings suggest that new faculty need to be trained and prepared to teach in more collaborative learning environments. Our research also shows that students are not being taught how to function as an engaged, vital member of a team. These collaborative skills for faculty and students are needed to ensure success in the coming century.

We believe that the college teaching profession needs to assume a greater responsibility for the preparation of new faculty as teachers, not simply as researchers. We need to foster ways to think about curriculum and instruction in more constructive and collaborative ways. Individual course ownership needs to be abandoned as the dominant mode. The focus of faculty dialogue needs to shift from criticizing ineffective methods to building more effective learning environments. When these efforts are made, faculty awards and rewards should reflect that teaching is as important as research.

"

Build effective learning environments by working together

"

What do These Findings Mean for Administrators and Legislators?

Administrators need to see that the students are admitted when they have a clear chance to succeed in the institution. Because one institution of higher education cannot best meet a particular student's needs, interests, and abilities does not mean that none can. Once a student is admitted, the institution has an obligation to provide meaningful educational experiences that foster development and growth. Such growth cannot be readily fostered outside the context of multiculturalism. Administrators also need to attend to the needs of faculty who teach successfully but whose efforts are unrewarded. By working together to create faculty development plans to improve teaching and thus increase learning, faculty and administrators can model the collaborative environment that will help lead to an improved postsecondary system.

Level playing field is not enough

Historically underrepresented groups of students choose certain institutions of higher education over others. Many of these choices are driven by finance, family, and location considerations. Students from groups who have not had equal opportunity in the past need to succeed, and it is in the public interest that they succeed. To aid in this success, legislators need to support institutions that successfully make specific provisions for historically underrepresented groups. A level playing field will not overcome educational, social, and political disparities that have resulted in historical underrepresentation; instead, institutions need support to restructure and reform their curricula to enhance diversity.

NCTLA findings show that faculty are committed to teaching and that they are diligent in meeting teaching responsibilities. Faculty understandably resent criticisms of their work that are based on simplistic measures such as hours in the classroom. Legislators who are moved to increase faculty accountability for teaching need to recognize the intricacies of teaching and learning, particularly that faculty devote more teaching time to planning and to evaluation than to actual classroom contact. Faculty are accountable for doing the things that facilitate student learning and development, wherever those things occur, and faculty deserve to be rewarded for their effectiveness in doing so.

Effective improvement of undergraduate education does not come from mandated teaching loads or assessment plans. Legislators should expect regular reports from higher education leaders on efforts to reward teaching, learning, and advising, but those efforts should be tailored to the educational environment. Our findings that learning

environments vary in effectiveness more within institutions than between them means that state policy makers should look for and support institutionally generated plans to assess student learning and to use the results to improve faculty instruction, curricular cohesion, and targeted, helpful student advising. They should invest in institutional efforts to encourage, educate, and assist new faculty to become skilled and proficient at curriculum planning, instruction, and advising.

Realizing the Potential

We know that college can profoundly shape students' lives. Many students possess little sense of whether they can succeed. They are uncertain as to what they will gain from the collegiate experience. Postsecondary institutions can be clearer about what students will learn, how they will learn, and what levels of learning will be achieved. At the same time, they also can more clearly reaffirm first-generation students' capacities to succeed and can show proven pathways to success. While the undergraduate experience can profoundly impact student learning and success, today its influence is often much less than it could be.

Successful college graduates emerge with a wide range of specialized and general knowledge, skills, abilities, and values. They have established new and wide-ranging networks of friends, mentors, and contacts. They may even have selected a career, a spouse or life partner, and a clearer vision of how they can contribute to society. But for every successful graduate, there are those who did not learn as much as they could or dropped out and did not attain their educational aim.

Our message is simple. While there is reason to maintain pride and confidence in the American higher education system, colleges and universities can do a great deal more to improve and enhance their impact on students. Postsecondary teaching, learning, and assessment can be improved. This report illustrates some of the problems, highlights promising programs, and points to practices that can help realize our potential for a more informed, engaged, and self-reflective teaching and learning environment.

> *"College can profoundly shape students' lives."*

BEST COPY AVAILABLE

Selected Bibliography

Astin, A. (1991). Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education. San Francisco: Jossey-Bass.

Bensimon, E. M. (1992). The normalization of diversity: Multicultural curricular change at urban university. University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment. (ERIC Document Reproduction Service No. ED 357 703)

Bensimon, E. M. (1993). Creating an institutional identity out of "differences": A case study of multicultural organizational change. University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment. (ERIC Document Reproduction Service ED No. 358 777)

Bensimon, E. M. (1993). The development of culturally responsive faculty. In M. Weimer (Ed.), Faculty as teachers: Taking stock of what we know (pp. 17-20). University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

Bensimon, E. M. (1993). Multicultural teaching and learning: Strategies for change. [Video tape]. PBS Adult Learning Services. (Available from The National Center on Postsecondary Teaching, Learning, and Assessment, 403 South Allen Street #104, University Park, PA 16801-5252).

Bensimon, E. M. (1994). Bilingual cash machines, multicultural campuses and communities of difference. Innovative Higher Education, 19(1), 23-32.

Bensimon, E. M. (1994). Multicultural teaching and learning: Strategies for change. University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment.

Bensimon, E. M. (1994). Understanding administrative work. In A. M. Cohen, F. Brawer, & Associates (Eds.), Managing community colleges: A handbook for effective practice (pp. 22-40). San Francisco, CA: Jossey-Bass.

Bensimon, E. M., & Tierney, W. G. (1992/93). Shaping the multicultural campus: Strategies for administrators. The College Board Review, 166, 24-45.

Braskamp, L.A., & Ory, J.C. (1994). Assessing faculty work: Enhancing individual and institutional performances. San Francisco: Jossey-Bass.

Dinham, S. M. (1992). New faculty describe a life of stress. Paper presented at the annual meeting of the Association for the Study of Higher Education, Minneapolis.

Eaton, J. S. (1991). The unfinished agenda: Higher education and the 1980's. New York: Macmillan.

Fairweather, J. (1992). Teaching and the faculty reward structure. University Park, PA: The Center for the Study of Higher Education, The Pennsylvania State University. Report for the National Center on Postsecondary Teaching, Learning and Assessment, U.S. Department of Education. (ERIC Document Reproduction Service No. ED 357 699)

Fairweather, J. (1992). Teaching, research, and faculty rewards: A summary of the research findings of the faculty profile project. University Park, PA: The Center for the Study of Higher Education, The National Center on Postsecondary Teaching, Learning, and Assessment, The Pennsylvania State University.

Fairweather, J. (1993). Faculty reward structures: Toward institutional and professional homogenization. Research in Higher Education, 34(5), 603-23.

Froh, R., Menges, R. J., & Walker, C. J. (1993). Revitalizing faculty work through intrinsic rewards. In R. Diamond (Ed.), Recognizing faculty work: Reward systems for the year 2000 (pp. 87-95). San Francisco: Jossey-Bass.

Jones, E. A. (1992). Is a core curriculum best? Assessment and reform of the undergraduate curriculum, No. 80. New Directions for Higher Education (pp. 37-46). San Francisco: Jossey-Bass.

Jones, E. A. (1994). Defining essential writing skills for college graduates. Innovative Higher Education, 19(1), 67-78.

Jones, E. A., & Ratcliff, J. L. (1991). Which general education

curriculum is better: Core curriculum or the distributional requirement? Journal of General Education, 40(1), 69-101.

Jones, E. A., Ratcliff, J. L., Hoffman, S., & Moore, L. M. (1993). Linking student assessment and general education in a large, complex research university. (Technical Report No. 1). University Park, PA: Office of Undergraduate Education, The Pennsylvania State University. (ERIC Document Reproduction Service No. ED 357 700)

Jones, E. A., Hoffman, S., Moore, l.m., Ratcliff, G., Tibbetts, S., and Click, B.A.L., III. (1994). A plan for validating criteria and measures to monitor progress toward national education goal 5.5: Identifying college graduates' essential skills in writing, speech and listening, and critical thinking. Final Report. University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment.

Kadel, S., & Keehner, J. (1994). Collaborative learning: A sourcebook for higher education, volume II. University Park, PA: The National Center on Postsecondary Teaching, Learning, and Assessment, The Pennsylvania State University.

Menges, R. J. (1992). The new faculty project: Conceptual model and plans for year two. Paper presented at the annual meeting of the Association for the Study of Higher Education, Minneapolis.

Menges, R. J. (1993). A study of newly hired postsecondary faculty. In M. Weimer (Ed.), Faculty as teachers: Taking stock of what we know (pp. 81-84). University Park, PA: The National Center on Postsecondary Teaching, Learning, and Assessment, The Pennsylvania State University.

Menges, R. J., & Trautvetter, L. C. (1993). Socialization of newly hired female faculty across types of institutions and disciplines. Paper presented at the annual meeting of the American Educational Research Association, Atlanta.

Millar, S. B., Rendon, L. I., Upcraft, M. L., & Terenzini, P. T. (1994). Voices of transition: First-year students and the transition to college. [90-minute audio tape]. University Park, PA: National Center on Postsecondary Teaching, Learning, and Assessment, The Pennsylvania State University.

National Institute of Education. Study groups on the conditions of excellence in American higher education. (1984). Involvement in learning: Realizing the potential of American higher education. Washington, DC: U. S. Department of Education.

Nora, A. (1993). Two-year colleges and minority students' educational aspirations: Help or hinderance. In J.C. Smart (Ed.) . Higher education: Handbook of theory and research, Vol. IX. New York, NY: Agathon Press.

Nora, A., & Cabrera, A. (1993). Examining graduate education through structural modeling. In P. Terenzini (Ed.) New directions for institutional researchers. San Francisco: Jossey-Bass.

Nora, A., & Cabrera, A.F., Hagedorn, L., & Pascarella, E.T. (August 1996). Differential impacts of academic and social experiences on college-related behavioral outcomes across different ethnic and gender groups at four-year institutions. Research in Higher Education, 37(4), in press.

Nora, A., & Cabrera, A.F. (in press). The role of perceptions of prejudice and discrimination on the adjustment of minority students to college. Journal of Higher Education.

Nora, A., & Cabrera, A. (November 1994). The role of significant others in the adjustment and persistence of minorities and non-minorities in higher education. Paper presented at the annual meeting of the Association for the Study of Higher Education, Tucson.

Pascarella, E. T., & Smart, J. C. (1991). Impact of intercollegiate athletic participation for African American and Caucasian men: Some further evidence. Journal of College Student Development, 32, 123-130.

Pascarella, E. T., & Terenzini, P. T. (1991). How college affects students: Findings and insights from twenty years of research. San Francisco: Jossey-Bass.

Pascarella, E. T., & Terenzini, P. T. (1992). Designing colleges for greater learning. Planning for Higher Education, 20, 1-6.

Pascarella, E. T., et al. (1994). What have we learned from the first year of the national study of student learning? Chicago, IL: University of Illinois at Chicago, The National Center on Postsecondary Teaching, Learning, and Assessment.

Quinn, J. S. (1994). If it catches my eye: A report of faculty pedagogical reading habits. Innovative Higher Education, 19(1), 53-66.

Rando, W. C., & Lenze, L. F. (1994). Learning from students: Early-term student feedback in higher education. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

Ratcliff, J. L. (1991). Dropout prevention and at-risk college students. In L. L. West (Ed.), Effective strategies for dropout prevention of at-risk students (pp. 251-283). Boulder, CO: Aspen Publishers.

Ratcliff, J. L. (1991). What type of national assessment fits American higher education? Journal of General Education, 42(1), 59-81.

Ratcliff, J. L. (1992). Reconceptualizing the college curriculum. Perspectives: The Journal of the Association for General and Liberal Studies, 22(1), 122-137.

Ratcliff, J. L. (1992). Scholarship, the transformation of knowledge and community college teaching. In G. B. Vaughan and J. Palmer (Eds.), Fostering a climate for faculty scholarship at community colleges (pp. 39-48). Washington, DC: American Association of Community and Junior Colleges.

Ratcliff, J. L. (1993). What we can learn from coursework patterns about improving the undergraduate curriculum. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning and Assessment.

Ratcliff, J. L. (1994). Assessment's role in strengthening core curriculum. In D. F. Halpern (Ed.), Changing college classrooms: The challenge of educating students for the 21st century (pp. 329-348). San Francisco: Jossey-Bass.

Ratcliff, J. L. (1995). The role of a differential system of higher education in a post-modern society: A teaching-learning perspective. Invited address, Department of Education, University of Tampere, Finland.

Ratcliff, J. L., & Jones, E. A. (1993). Coursework cluster analysis. In T. W. Banta (Ed.), Are we making a difference? Outcomes of a decade of assessment in higher education (pp. 256-268). San Francisco: Jossey-Bass.

Rendon, L. I. (1993). Eyes on the prize: Students of color and the bachelor's degree. Community College Review, 21, 3-13.

Rendon, L. I. (1993). Validating culturally diverse students: Toward a new model of learning and student development. (ERIC Clearinghouse for Community Colleges, ED 371 672)

Rendon, L. I. (1994). Validating culturally diverse students: Toward a new model of learning and student development. Innovative Higher Education, 19(1), 33-52.

Rendon, L. I., & Jalomo, R., (1995). Validating student experience and promoting progress, performance, and persistence through assessment. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

Rhoads, R. A., & Tierney, W. G. (1992). Cultural leadership in higher education. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment. (ERIC Document Reproduction Service No. ED 357 708)

Rhoads, R. A. (1994). When organizational cultures collide: Revisiting a school-college collaboration. University Park, PA: The Pennsylvania State University, National Center on Postsecondary Teaching, Learning, and Assessment.

Springer, L., et al. (1994). Influences on college students' orientation toward learning for self-understanding. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment. Unpublished manuscript.

Taylor, C. (1992). Multiculturalism and the politics of recognition. Princeton, NJ: Princeton University Press.

Terenzini, P. T. (1993). The transition to college: Easing the passage. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

Terenzini, P. T. (1994). Educating for citizenship: Freeing the mind and elevating the spirit. Innovative Higher Education, 19(1), 7-22

Terenzini, P. T., Allison, K. W., Gregg, P., Jalomo, R., Millar, S. B., Rendon, L. I., & Upcraft, M. L. (1993). The transition to college: Easing the passage: A summary of the research findings of the out-of-class experiences research program. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment, Center for the Study of Higher Education.

Terenzini, P. T., & Pascarella, E. T. (1991). Twenty years of research on college students: Lessons for future research. Research in Higher Education, 32(1), 83-92.

Terenzini, P. T., Springer, L., Pascarella, E. T., & Nora, A. (1995). Influences affecting the development of students' critical thinking skills. Research in Higher Education, 36, 23-39.

Tierney, W. G. (1992). Building communities of difference: Higher education in the 21st century. Westport, MA: Bergin & Garvey.

Tierney, W. G., & Rhoads, R. A. (1992). Cultural leadership. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment,

Tierney, W. G., & Rhoads, R. A. (1993). Postmodernism and critical theory in higher education: Implications for research and practice. In J. Smart (Ed.), Higher education: Handbook of theory and research. New York: Agathon Press.

Tierney, W. G., & Rhoads, R. A. (1994). Enhancing promotion and tenure: Faculty socialization as a cultural process. ASHE-ERIC Higher Education Report. Washington, DC: Association for the Study of Higher Education. (ED 368 321)

Tinto, V. (1994). Discovering the sources of student success. In D. Floyd (Ed.), From vision to reality: Student affairs agenda in the '90s. Iowa City: American College Testing Program.

Tinto, V., & Goodsell, A. (1993). Freshman interest groups and the first year experience: Constructing student communities in a large university. The Journal of the Freshman Year Experience, 6 (1), 7-28.

Tinto, V., Goodsell, A., & Russo, P. (1993). Building community among new college students. Liberal Education, 79(4), 16-21.

Tinto, V., Russo, P., & Kadel, S. (1994). Constructing educational communities: Increasing retention in challenging circumstances. Community College Journal, 64(4): 26-30.

Tinto, V., et al. (1993). Building learning communities for new college students. University Park, PA: The Pennsylvania State University, The National Center on Postsecondary Teaching, Learning, and Assessment.

Trautvetter, L. C. (1992). A portrait of newly hired faculty at different institutions and in four disciplinary fields. Paper presented at the annual meeting of the Association for the Study of Higher Education, Minneapolis.

Upcraft, M. L. (Ed.). (1993). Designing successful transitions: A guide for orienting students to college. Charleston, SC: University of South Carolina, National Resource Center for the Freshman Year Experience. (Publication sponsored by the National Orientation Directors Association.)

Upcraft, M. L. & Schuh, J. H. (Eds.) (in press). Assessment for student affairs practitioners. San Francisco: Jossey-Bass.

NCTLA Personnel

NCTLA Director:

James Ratcliff, Professor and Director, Center for the Study of Higher Education, Pennsylvania State University.

NCTLA Associate Directors:

Judy Diane Grace, Director of Dissemination, Research Associate, Pennsylvania State University.

John Kehoe, Director of Operations, Research Associate, Pennsylvania State University.

Patrick Terenzini, Director of Research, Professor of Higher Education, Pennsylvania State University.

Researchers:

Estela Mara Bensimon, Professor, Center for Higher Education and Policy Studies, University of Southern California.

Larry Braskamp, Dean, College of Education, University of Illinois at Chicago.

James Fairweather, Associate Professor of Higher Education, Pennsylvania State University.

Elizabeth Jones, Research Associate, Pennsylvania State University.

Robert Menges, Professor and Director of the Center for the Teaching Professions, Northwestern University.

Amaury Nora, Associate Professor of Higher Education, University of Illinois at Chicago.

Ernest Pascarella, Professor of Higher Education, University of Illinois at Chicago.

Laura Rendon, Associate Professor in the Division of Educational Leadership and Policy Studies, Arizona State University.

Robert Rhoads, Assistant Professor, Michigan State University.

William Tierney, Professor and Director, Center for Higher Education Policy Studies, University of Southern California.

Vincent Tinto, Professor of Sociology and Education, Syracuse University.

M. Lee Upcraft, Research Associate, Center for the Study of Higher Education, Pennsylvania State University.

Dissemination:

Karla Sanders, Publications Editor/Designer, Pennsylvania State University.

Delta Swan, Sales Manager, Pennsylvania State University.

ISBN 0-16-048964-4

90000

9 780160 489648

Standard Mail (A)

MS-5725 PE 96-8040 (d4822)
Acquisitions Librarian
Eric Facility
1100 West Street 2nd Fl
Laurel MD 20707-3587

PLLI 96 8040

NCTLA

BEST COPY AVAILABLE